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ABSTRACT

This document introduces community leaders and practitioners to innovative approaches to improving workforce literacy by building accessible lifelong learning systems to prepare adults with the array of skills needed to prosper in the new economy. The introduction defines literacy and workforce literacy and outlines the challenges that education, business, and community leaders are facing in meeting workforce needs. Six types of workforce literacy initiatives are characterized. The following strategies for success are explained: assessing labor market conditions and workforce literacy; initiating a dialogue on tough issues and work-related learning; preparing a local action agenda for literacy; finding new ways to create multiple learning pathways; applying principles of effective workplace literacy and youth development programs; and measuring the success of workforce literacy initiatives. An overview of the following types of available workforce literacy resources is included: national agencies and resources; research, evaluation, and model programs; organizational resources; South Carolina resource agencies; and World Wide Web sites and related publications. The following items are appended: information about the development and content of the Equipped for the Future standards; information about how adult literacy is measured; 12 principles of effective practice; and a discussion of primary federal legislation and delivery systems. (Contains 66 notes and references.) (MN)

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Improving Workforce Literacy For 21st Century Jobs

A Report of the
Institute on Family and Neighborhood Life at Clemson University

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Improving Workforce Literacy
For 21st Century Jobs

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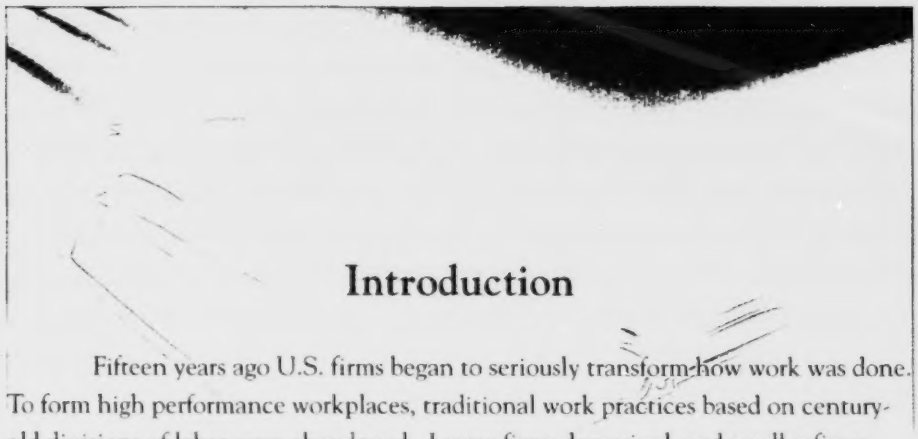
When the literacy skills of most residents in a community are not keeping pace with what employers expect or what is required to bring workplaces up to 21st Century standards, the prospects for everyone's future becomes threatened. The 21st Century Workforce Commission moved the bar higher in making its prediction that "the current and future health of America's 21st Century Economy depends directly on how broadly and deeply Americans reach a new level of literacy—'21st Century Literacy'—that includes strong academic skills, thinking, reasoning, teamwork skills, and proficiency in using technology."[1]

Companies cannot afford to stay in business when productivity levels fail to rival their competitors. If they delay investing too long in high-performing technologies and skills, eventually declining profits will cut into the reserves needed to efficiently produce goods and services. Smaller firms may not have such choices if the costs are prohibitive. Workers in low-performing workplaces can expect their wages to stagnate, and layoffs and temporary hires to become commonplace. Public agencies face similar dilemmas. Mistakes by workers ill-equipped to perform their jobs result in added costs and inconveniences. The consequences can be devastating when the work supports vital community services and healthcare.

Solutions are being sought on ways to prepare every worker with the knowledge and skills to be successful in 21st Century jobs. Attempts to build universal systems of learning and support are unfortunately rare. We describe some of the more innovative approaches by states, communities, and organizations interested in forming coordinated systems of workforce development where adults, out-of-school youth, and working low-income families can receive the instruction and support they need to reach their education and employment goals.



Introduction

Fifteen years ago U.S. firms began to seriously transform how work was done. To form high performance workplaces, traditional work practices based on century-old divisions of labor were abandoned. Larger firms downsized, and smaller firms consolidated, in an effort to stay competitive in the global marketplace. New technologies, and the workers skilled in their use, are believed to be responsible for this country's decade-long period of economic growth.

An information revolution and new knowledge-based economy is reshaping how work is performed and where. The impact of this information revolution is expected to deepen, creating dramatic changes in jobs and in lifestyles over the next 10 to 15 years as the rate of advancements in technology accelerates. Some industries will become obsolete while entirely new industries will be created. How well these technologies succeed in the future, however, may be dictated by the ability of Americans to reach higher literacy levels.

This guide is directed at community leaders and practitioners interested in **improving workforce literacy by building lifelong learning systems accessible to all adults to equip them with the full array of skills they need to prosper in the new economy**. While *Promoting Workplace Literacy* and other reports issued have focused on what might be done for adults at the lowest levels of literacy in both counties, this report discusses what is needed to build a seamless learning system for all adults. Every community is expected to develop the components of a lifelong system of learning to satisfy the new demands of a rapidly changing economy. Many are well on the way to finding solutions. We will share ideas and experiences that show the greatest promise.

This report focuses on lifelong-learning system development and on what communities need to investigate and put in place to prepare workers for 21st Century jobs. It reviews system changes essential in benefiting nontraditional learners and other groups with multiple barriers to meaningful training and jobs. These learners include out-of-school youth, adults with severe learning disabilities, single mothers and minorities trapped in low-wage jobs. It covers the learning requirements for literacy levels one through five. See Appendix for definitions. It recognizes that if attention is not given to the full spectrum of learning, then counties will have a hard

time securing a workforce that can change and adapt to new economic opportunities, threats and challenges.

The task of building skills to accommodate present and future job demands is too complex for any single institution. It will require partnerships between schools, universities, companies, employers and community organizations to build *systems* of workforce skills development that are sensitive to changes in labor markets, nationally and internationally. Therefore, the responsibility for creating learning environments must be shared by every individual and institution within a community.

We begin this discussion by broadening our understanding of what is meant by literacy development. The framework for understanding what kinds of workforce skills are required for the 21st Century is found in the Equipped for the Future (EFF) initiative. This initiative was led by the National Institute for Literacy in partnership with business, industry, a variety of state government agencies that have oversight responsibilities for various workforce training programs, and nonprofits. See Appendix for a description of the EFF standards.

What is Literacy?

The National Institute for Literacy defines literacy as *the ability to read, write, and speak English proficiently, to compute and solve problems, and to use technology in order to become a lifelong learner and to be effective in the family, in the workplace and in the community.*[2]

Approximately half of America's adults were not functionally literate in 1993, the last time a national survey was conducted. That percentage equals approximately 90 million adults. Very few adults in the U.S. are truly illiterate. Rather, there are many adults with low literacy skills who lack the foundation they need to find and keep a decent paying job, support their children's education, maintain their health, and participate actively in civic life.

In building a lifelong learning system, the greatest concentration of resources must be applied to adults who are still functionally illiterate. In Lancaster and Chester Counties, it is estimated that 68 percent of the Chester County population has level 1 or 2 literacy proficiency and that 60 percent of Lancaster County's population is at this same level. That translates into 46,969 adults, ages 16 years or older, in the 2-county area who are functionally illiterate. These levels are described in the Appendix and found online at the National Adult Literacy website (http://nces.ed.gov/naal/). Both counties are above national and state averages in low literacy rates.

All adults need four literacy skill sets. See Table 1. These four categories of skills are used in combination in order to effectively carry out activities as a parent, worker, citizen, and health consumer and provider.[3]

Table 1. **Basic Literacy Skills Needed by All People**

Communication Skills

- Read with understanding
- Convey ideas in writing
- Speak so others can understand
- Listen actively
- Observe critically

Decision Making Skills

- Solve problems and make decisions
- Plan
- Use math to solve problems and communicate

Interpersonal Skills

- Cooperate with others
- Guide others
- Advocate and influence
- Resolve conflict and negotiate

Lifelong Learning Skills

- Take responsibility for learning
- Learn through research
- Reflect and evaluate
- Use information and communications technology

When people talk about being literate, they now mean that a literate adult has well developed competence in each of these skill areas. Any lifelong learning system should account for these basic literacy skills and provide for the progressive development of skills, from basic through complex, relative to each skill set.

What is Workforce Literacy?

Defining literacy skills in the workplace or for an entire workforce requires vigilance and constant interpretation, particularly when a labor market, such as ours, is undergoing structural changes. In the simplest of terms, literacy in the workplace refers to the set of knowledge and skills required of a worker to effectively perform job-specific tasks. Having basic literacy skills does not adequately prepare someone for present day jobs. National attention was brought to this fact in the early-1980s when U.S. industries were reported to be losing ground. Raising the skill levels of our workforce became vitally important in regaining our competitive edge.

Workforce Literacy refers to the education of the nation's workforce with the goal of realizing higher levels of literacy for all workers. It is a crucial strategy in sustaining economic growth for the nation, the state, and local communities. The nature of the educational system envisioned is different from what exists now. Job training programs are scattered in uncoordinated fashion across the public and private sectors. As with other human service delivery, workforce education is also fragmented and duplicative.

A Vision for a Coordinated Lifelong Learning System. Workers need to be able to learn what they need to, when they need to, and in a form that is understandable and usable. To accomplish this learning goal, leaders realize that present educational services are inadequate on several fronts.

- How students are taught in the classroom bears little or no resemblance to how they will learn on the job; and,
- Workers seeking to further their education and upgrade skills must deal with a confusing array of providers (e.g., public and private postsecondary schools; accredited and nonaccredited 2-year and 4-year degree programs; vocational, trade and business classes). The carryover of knowledge and skills from one provider to the next and then to the workplace is often short-lived, off target and results in poor outcomes for the amount of time and money invested.

A compelling national vision is unfolding for a universal system of lifelong learning. Momentum is growing in support of strategies that so integrate education and training systems as to offer Americans flexible *paths* and lifelong access to learning *networks*. Reformers in lower division K-12 schools are well aware of the importance of individual education plans and curriculums that progressively guide students from year-to-year until competencies are obtained. The same is needed for adults. Pathways should be charted toward reaching the learner's goals. For workers, this may involve training for new careers. And yet their education must build on existing competencies and not begin anew. Learning takes place in many settings; therefore with better assessments and standards, adults should receive credit for what they know and can demonstrate whether in classrooms or on worksites. For this to be accomplished, all educational designs must lead to clearly identifiable and relevant learning outcomes.

To provide adults with a variety of educational choices and supports will entail the creation of new approaches in the delivery of literacy and skill training. Public/private partnerships are forming networks to maximize their resources in an effort to provide a continuum of educational services to workers and low literate adults.

States and localities are taking advantage of the federal devolution of welfare and training programs. They are experimenting with structural and administrative changes to consolidate adult education, job training, and economic development systems. This is not, yet another, attempt to streamline services and eliminate duplications that confound practitioners, workers and employers alike. The threefold intent is to:

1) Combine resources and expertise across several systems to enhance the quality and outcomes of education and training, and to extend services to anyone with skill deficiencies and obstacles to successful employment;
2) Give every worker access to timely information on economic and employment trends that will guide their job pursuits, not just at the time of entry into employment, but lifelong as they transition between various jobs and diverse labor markets; and,
3) Create a dynamic and enduring workforce development system that will prepare workers to satisfy local labor market demands, while also insuring that the workforce develops the 21st Century skills needed to fuel our nation's growth and secure prosperity for every American worker.

Who Lacks the Basic Skills Needed for the New Economy?

Any person who is having trouble performing effectively on the job or who is having trouble getting or keeping a job may need to increase basic skills and literacy functions. There might be other reasons for poor job performance and hiring difficulties, but literacy and basic skill enhancements are primary needs for most in such situations. In the past, workers were fairly confident of making a decent living if they acquired one strong technical or mechanical skill. Today, those with advanced degrees are finding their skills are becoming obsolete within four or five years because of new knowledge and changes in practice spurred on by advanced technologies.

Every work setting requires a unique set of basic skills and varying levels of skill proficiency for a worker to adequately complete a job assignment. Periodically researchers assess job tasks within a firm, and across entire business and industry sectors (such as the Equipped for the Future initiative), to identify the set of literacy and basic skills essential for most jobs. This defines the threshold for worker literacy. When combined with a local assessment of skills among workers and job seekers, it is possible for communities to project the present "skills gap" and make informed decisions on workforce development investments. In the absence of a local

workforce assessment, we must rely on national studies and trends to estimate the scope of the literacy problem in Lancaster and Chester Counties.

We have already identified exceptionally high rates of functional illiteracy among residents of both counties. But what does this mean in terms of job readiness? Entry-level and semiskilled jobs require that workers function minimally at a second level of literacy (using National Adult Literacy Survey measures, hereafter referred to as NALS). Adults at level 2 can read and do simple math computations. As long as information is easily identifiable, they can draw conclusions from written materials although seldom can they make inferences to other situations beyond what is presented. Current estimates indicate that 24 percent of adults in Lancaster County and 30 percent of Chester County's adult population are in the lowest literacy category (NALS level 1). We assume that many of these persons are unemployed since they lack the skills to fulfill the most basic workplace requirements. A slightly larger group of adults are in the next lowest literacy category. An additional 38 percent of Chester County and 36 percent Lancaster County adults function at NALS level 2. They are capable of doing routine, semiskilled jobs. Their literacy skills in reading, writing and math are adequate, if job demands remain fairly constant. Any expectations for improving their job performance, however, may require skill enhancements. For instance, production workers with low literacy may find it difficult adjusting to proficiency measures aimed at increasing the speed and accuracy of their work.

Skill Demands for Higher Performing Workplaces. Entry-level positions in higher performing workplaces require advanced skills and the ability to apply knowledge in a variety of circumstances. In a 1996 study of such workplaces by Richard Murnane and Frank Levy, *Teaching the New Basic Skills*, the minimum skills for middle-income U.S. jobs are described as the ability to:

- Read and compute math at a ninth-grade level or higher
- Analyze problems, surmise possible causes, and be able to test or solve them
- Work well as a team member with diverse groups
- Communicate effectively in writing and in speaking (English-speaking implied)
- Use computers proficiently, at least word processing skills

When this study was conducted five years ago, the skills identified would have been comparable to NALS level 3 literacy. The National Governors' Association and the National Educational Goals Panel consider level 3 literacy skills as a minimum standard for 21st Century jobs.[4] But the bar continues to be raised by employers in high performance workplaces. Job candidates are expected to possess reading and math competencies at tenth- and eleventh-grade levels and higher. They must be able to solve complex problems and analyze information that is either

computer generated or soon will be. Employers seeking these skills are generally looking for high school graduates who have additional skill training.

Three major literacy challenges of the new economy have been identified by John Comings, with the National Center for the Study of Adult Learning and Literacy, along with other literacy and labor market experts. They articulate the literacy problems and estimate the number of U.S. workers affected as distinct groups, but acknowledge that persons may experience one or more of these three challenges:[5]

- An Education Credential Challenge
- A New Literacy Challenge
- A Language Challenge

An Education Credential Challenge for High School Dropouts. High school dropouts are not competitive for jobs in the new economy. They number high among the ranks of the marginally employed and, when employed, the real value of their earnings is declining in relation to workers with a high school diploma. In Lancaster and Chester Counties, two out of every five adults over the age of 25 years didn't finish high school. This is a considerable improvement in educational attainment rates from earlier decades. In 1960, a majority of Lancaster County adults had less than a 9th grade education. Census findings for 2000 show a fourfold increase in the rate of grade school completions and high school graduation rates have more than doubled.

Older workers may not have needed a high school diploma for the jobs they were hired to do ten to fifteen years ago. These times are gone. Even if an employer does not stipulate that a high school degree is required for employment, they will use it to screen for acceptable job candidates. This is particularly true for younger job seekers. Employers are holding youth to higher standards in competition for entry-level jobs. Perhaps they want to hire persons capable of working in the high-performance workplace they envision; they may be looking for young workers to fill the void in 21st Century literacy skills of their current workforce. Employers admit they are hesitant to invest in costly training programs for fear that workers will leave for better salaries. Because young workers are expected to perform jobs without additional training, high school dropouts are at a real disadvantage.

Another more troubling concern is that younger adults between the ages of 21 to 25 have lower literacy skills than the same cohort group from an earlier decade. Young adults included in the last National Adult Literacy Survey scored lower in reading, document literacy, and math skills than those surveyed ten years before.[6] Some researchers attribute the decline to the influx of non-English speaking immigrants. And yet, the same findings were found to be the case among young women on public assistance in which immigrants were excluded.

At a time when the rest of the state and nation are focusing on strategies to encourage students to continue their education beyond high school, Lancaster and Chester Counties are losing ground in moving students successfully through high school. The proportion of students dropping out of high school is alarming for Chester and Lancaster Counties. It is also difficult to understand how and why these rates fluctuate. Chester County was seeing a downward trend for several years from having a majority of its 9-12 grade enrollments failing to complete high school in the mid-1990s. The rate has edged up in recent years to 40.2 percent for a total of 219 students. Lancaster County's dropout rate hovered around 20 percent and then doubled in school year 1994-95. It has declined slightly to a rate of 29.3 percent, which amounts to 252 students.[7] There is an interesting reversal in county trends among minority students. Whereas the proportion of African American and other minority males dropping out from 1997-1999 increased by 61.9 percent in Chester County, the dropout rate among African American and other minority females in Lancaster County declined by 57.6 percent for the same period.[8]

Estimates for Educational Credential Challenge

Estimates by County[9]	Chester County	Lancaster County
Functionally illiterate adults without a high school degree	6,936	9,710
(% of adults 16 to 65)*	29%	23%
Recent high school dropouts & out-of-school teens	887	1,137

** Slightly underestimated to account for duplicate count for youth.*

A New Literacy Challenge for Low-Skilled Workers. Jobs in the new knowledge-based economy require some college or post-secondary education. The skills required for today's demand jobs in offices and healthcare settings are at or above level 3 literacy. In the U.S., office jobs are the fastest growing sector making up "41 percent of the nation's 133 million jobs in 1997...by 2006, the number of U.S. office jobs are projected to grow by another 4.4 million."[10] All five occupations added to South Carolina's list of *Fastest Growing Occupations* requires computer expertise and special skills that would necessitate postsecondary training, if not a college or technical college degree.[11]

Displaced workers in the older farm, factory, and services sector are up against keen competition for similar employment because job openings in these sectors have either been declining or remained constant. As a result of supply-side

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economics and other market dynamics (e.g., firms slow to transform, and rising immigrant and contingent labor), job seekers must upgrade their education and training or they can expect to earn less for work involving longer shifts with fewer or no benefits.

Workers in the lowest two levels of literacy are struggling to do their jobs in workplaces that are in the initial stages of restructuring and automation. They are often given very short periods to learn new skills before they are simply replaced with higher skilled workers. When a manufacturing plant converts to computer-enhanced machinery, workers are expected to apply fairly complex mathematical concepts in making frontline decisions (i.e., at the point of production vs. the boardroom) that involve higher problem-solving and computational skills. Many loyal workers are in jeopardy of losing good jobs because they cannot quickly master these skills. Additional education can greatly improve their ability to make these adjustments.

When comparing the incomes of high school and college graduates overtime, there is a significant and ever widening earnings gap. Median incomes for college graduates were 58 percent higher than high school graduates in 1975.[12] Twelve years later, the gap had grown to 77 percent. Most high school graduates will not reach the middle range of what college graduates earn at any time in their careers. One factor shown to narrow this gap is that a year of technical college training (non-degree) results in an average gain of 14 percent in wages.[13]

Estimates for New Literacy Challenge

Estimates by County[14]	Chester County	Lancaster County
Functionally illiterate adults with a high school degree (% of adults 16 to 65)*	9,743 40%	15,188 37%
Adults with a high school degree but no further education & training (% of adults age 25 and over)	6,625 33%	11,475 33%

* *Slightly underestimated to account for duplicate count for youth.*

A Language Challenge for Immigrants. Latinos are the fastest growing cultural group in this country. At present rates, it is projected that by 2050 as many as 1 in 4 persons in the U.S. will be Latino.[15] The largest segment of this immigrant population in Lancaster and Chester Counties is from Mexican ancestry, although the 2000 Census reports others from Puerto Rico, Cuba and elsewhere. The movement of significant numbers of Latino immigrants into the state is thought to have occurred within the last five years. Because their settlement has expanded so rapidly, their numbers are believed to be more prevalent than what is included in the 2000 Census. Hispanic residents in South Carolina total 95,076 or 2.4 percent of the population. The numbers residing in Chester and Lancaster Counties are 255 and 978 respectively.

Language proficiency is a primary concern among non-English speaking immigrants. Employers have welcomed this migration and at times actively recruited their settlement. It offers an opportunity to fill hard-to-attract manual labor jobs in construction and line positions in manufacturing firms. When small numbers of immigrants first move into rural areas, language problems are magnified because there isn't a sizeable Hispanic population, or residents fluent in Spanish to act as interpreters. Breakdowns in communication can be costly in lost work hours and in added workloads on supervisors who have to make certain that instructions are understood. Likewise, greater pressure is brought to bear on community members in the schools, health and human services fields to help bridge this language gap. Churches and community-based voluntary groups play a central role in language and literacy skill building.

Learning a second language is compounded for those with limited schooling and poor literacy. Gaining some English-speaking proficiency must precede attempts to address issues of low literacy. Even immigrants with high school degrees can be disadvantaged on the job when confronted with language and cultural differences. Moreover, their wages tend to be 25 percent lower than their peers with good English-speaking skills and incumbent workers who are residents of the area.[16]

Estimates for Language Challenge		
Estimates by County[17]	Chester County	Lancaster County
Immigrants with limited English speaking skills (reported language deficiencies)	125	344

Community leaders may be dismayed by these phenomenally high rates of illiteracy and employers skeptical to believe that their entire workforce may be unprepared for jobs in high-performance workplaces. Firms have not been quick to transform their operations until recently. Sweeping changes across industries can be counted in years rather than decades. What is not difficult to see is the effect communication and information technology is having in every aspect of our lives. When South Carolina schools opened in 1999, eighty-six percent of the schools had classroom computers linked to the Internet utilizing broadband (T1) lines.[18] Nearly three-quarters of American workers when queried about their familiarity with computers explained that they used computers everyday at work, home or school.[19] Within five years, the 21st Century Workforce Commission believes that half of our workforce will be employed in industries that "produce or intensively use information technology products and services." [20]

The digital divide that separates Americans geographically (i.e., urban vs. rural) is beginning to be bridged by wireless technology and lower cost equipment. Once these solutions are adopted, we may discover that the greater divide is within our communities between those with 21st Century literacy and those without. Regardless of whether workers will eventually use computers in their jobs, the widespread application of communication and information technology is changing how we live. We use it to pay bills, access basic services, track our children's progress in school, and diagnose illnesses. Placing volumes of information at easy disposal, anytime and anywhere, can be exhilarating to those with the know-how to put it to good use. For persons with low literacy, it can be frustrating and add considerably to their list of basic skills to be mastered.

Work-related Learning Challenges. Many other reports are available that do exhaustive treatments on the challenges U.S. business and industry face, in partnership with public agencies, to better prepare the local workforce to increase productivity, adapt effectively to changing consumer demands and market place competition. A few are highlighted in Table 2 that are related to learning challenges.

Table 2. **Learning Challenges for Workers, Employers, and Communities**

For Workers

- Low literacy costs workers in lost wages and opportunities.
- Employer-based training has concentrated on managers and professionals. Private companies have less experience and commitment to basic skill development.
- Workplaces are changing drastically in America because of information technology. All workers will need to improve their literacy and develop new competencies, which minimally includes being proficient in the use of computers.
- Americans are increasingly working longer hours. Perhaps because of job insecurities workers are accepting second jobs or out of necessity combining part-time jobs to make a full-time wage. Other contributing factors relate to labor market conditions. For example, employers may be placing greater demands on experienced workers as a result of a shortage of skilled workers. Regardless of the causes, workers have less time to spend in pursuing additional education.
- Unless learning environments exist for workers to continually upgrade their skills, they will lose out on the opportunities and rewards of the new economy.[21] Jobs in the high-tech knowledge economy require some college or post-secondary education.
- In an economic downturn, workers with the lower literacy and skills are at higher risk of layoff and, if that comes to pass, subject to lengthier periods of unemployment.

For Employers

- An estimated 2 out 5 American workers lack the basic literacy to do an adequate job. Based on the low literacy rates among Lancaster and Chester County residents, this ratio is likely to be higher. Job performance may be poor for as many as 3 out 5 workers in the area.
- Low literacy and mismatched worker skills costs employers in lost productivity and higher training costs.
- There is a shortage of job candidates with the right combination of literacy and skills. Consequently, the more promising hires tend to be high school graduates with additional training or postsecondary degrees.
- Companies in responding to economic pressures to restructure found that the hardest obstacle to overcome was how to equip their existing workforce with new skills.

For Communities

- Workforce participation is as high as it has ever been; therefore, adult education and literacy programs must accommodate work and family schedules.
- Workers with low literacy skills are more likely to cycle in and out of jobs, be unemployed for longer periods of time, and continuously seek assistance in the form of emergency food, income, and public subsidies for housing, family support and medical needs. When large segments of a population are living on the edge, it puts an extraordinary burden on the community's resources and economy.
- Skills alone will not lead to career advancements and jobs with family-supporting incomes. A combination of literacy, training, supports, and pathways are needed for workers trapped in entry-level and semi-skilled jobs. Communities need to explore labor market conditions to improve the quality of jobs and opportunities for upward mobility.
- Recent studies indicate that family well-being is negatively affected by non-day work (i.e., outside of weekday or 8 a.m. to 4 p.m. work hours) and inflexible work schedules; mundane and repetitious tasks; instability and jobs without benefits.[22] Two groups of workers found to dominate the low-wage, poor quality job market are adults with low literacy and new entrants who largely consist of welfare leavers, young mothers, and minorities.

What Challenges are Education, Business and Community Leaders Facing in Meeting Workforce Literacy Needs?

The one consistent message given to communities is that forming effective partnerships is imperative to satisfy 21St Century literacy needs. Private firms and public agencies are expected to share in the cost and responsibility of implementing system changes in workforce development. The mystery left for each community to solve is how to make this happen. There are few examples nationally, and fewer still in South Carolina, where public and private literacy providers are collaborating in effective ways.

Why the insistence on partnerships when countless models exist of successful interventions by employers, nonprofit organizations, and adult education programs? Improving literacy outcomes for no less than half and up to three-quarters of the workforce is not a mission that our education system can address alone. Nor can workplaces be expected to bear a large share of the burden in investing in the continuous education and training of their employees. The cost of equipping our U.S. workforce has risen sharply to an estimated $815 billion a year. This represents a major sector of the U.S. economy, second only to healthcare expenditures.[23]

Aligning Systems in Support of Worker Literacy and Skill Development. Many private employers are heavily financing training programs to upgrade workers' skills. They provide almost half of the adult education and training in this country. As would be expected, this training focuses on skills directly related to the workers' job functions. Courses in general skills development also tend to be specific to company practices, such as orientations to safety rules and internal communications. Less than one percent of time in training provided by private firms is devoted to literacy or basic skill development.[24]

Consequently, the largest providers of training for workers with limited education and skills are public agencies. Expenditures on postsecondary education by federal, state and local governments totaled $48 billion in 1998. This figure excludes federal grants awarded to students for tuition and training costs. Nor does it include an additional $7 billion spent on programs to assist dislocated, jobless and low-income workers through the U.S. Department of Labor.[25]

For a thorough review of public and private education providers and the challenges ahead in meeting new skill requirements, see *21st Century Skills for 21st Century Jobs* at http://vpskillsummit.gov.

Public educational providers consist of state and local agencies. Lancaster and Chester Counties reflect the makeup of literacy and education services found in most South Carolina communities. Providers are scattered across many agencies. Some of the services provided by each are outlined below.

Local school districts: Adult education, family literacy, GED preparation, high school completion, secondary vocational, alternative schools, School-to-Work, and Tech Prep programs. Some school districts administer literacy programs for low literate adults (NALS level 1 & 2) providing: life skills classes, literacy and basic skills training, English as a second language (ESOL), and workplace literacy.

Post-secondary colleges and universities: Vocational technical college with 2-year and 4-year academic degree programs, vocational certifications, and Tech Prep.

SC Department of Social Services (DSS): Life skills, testing and assessment, job placement and follow-up, support services, cash benefits, and educational referrals.

SC Department of Vocational Rehabilitation (DVR): Life skills, testing and assessment, job placement and follow-up, counseling, support services, workplace accommodations, and educational referrals.

Employment Security Commission (ESC): Job information and matching assistance, job placement and follow-up, on-the-job training, counseling, support services, customized training, and educational referrals.

While there is some interaction between these agencies, it generally takes the form of cooperative agreements that identify how services will be rendered and to whom. There is seldom a sharing of resources and a blending of roles that are sufficient to erase the program boundaries. Considerable overlap exists even though, for the most part, adult education and workforce development services are delivered in isolation. Services conform to agency protocols and are program-centered rather than learner-centered. In Lancaster County, eight public agencies provide education and work-related assistance to adults. Each has a different governance system, targets different groups, and administers numerous programs with different funding sources, service restrictions, and time frames. Imagine how confusing this web of programs is to an adult with low literacy skills. No amount of coordination will disentangle this web. It will take innovative planning and the integration of services across agencies, or consolidated within a single agency, in order to create an effective system of literacy and skill training.

Federal Reforms in Workforce Development. Constraints inherent in U.S. policies and funding decisions continue to imperil local attempts to integrate delivery systems. On one front, Congress is taking great strides to give states responsibility for making workforce investment decisions. Education has always been the state's responsibility in coordination with local school districts. But employment and training programs began as large-scale federal endeavors that have gradually been passed on to the states and eventually to larger cities. The Workforce Investment Act (WIA) of 1998 represents a final transfer of spending authority to states and localities.

Policymakers tried to transform this country's workforce development system in the original plans for WIA legislation. Patterned after state initiatives that have been making successful inroads in this regard since the early 1980s, funding was to have been collapsed to form one coherent system comprised of job training, adult education, employment services, and vocational rehabilitation.[26] For Lancaster and Chester Counties, this would have consolidated federal funds for adult education and training programs administered by the local school districts, York Technical College, and four state agencies (DSS is the exception). The compromise that ensued fell far short of this goal. In the WIA amendments that passed, states are instead "encouraged to submit unified plans" to ensure coordination among these four systems and fourteen additional workforce development programs. High school vocational education was cited, but its inclusion is subject to state legislative approval.[27]

The key features of WIA are outlined in Table 3. Provisions of the legislation that passed are described at http://usworkforce.org/runningtext2.htm. Additional information on state and local WIA programs is discussed in the Appendix.

WIA constitutes a framework for reform that has propelled the leading states to solidify elements of a comprehensive workforce development system. Some states have consolidated job training, adult literacy and education systems to become a cornerstone for business development by retraining workers for the new knowledge-based economy. Other states are integrating job training, adult education, and welfare services to serve as the infrastructure for a system of lifelong learning. Examples of the best strategies and lessons learned are provided in the next section on Workforce Literacy Initiatives.

***Table 3.* Key Features of the Workforce Investment Act**

One-Stop Career Centers - Points of entry for services are in community and neighborhood one-stop career centers. WIA conceives the one-stop centers to be more than places where public agencies collocate training and service staff. This is where everyone has access to an integrated and seamless workforce development system.

Universal Access to Core Services - Basic job information, and assistance in furthering one's education and skills are to be universally available. The core services follow a "work-first" approach that emphasizes job placement. More intensive services are targeted to unsuccessful jobseekers. This would include literacy and basic skill development.

Customers Choose Training Providers - Services are market-driven in so far as workers and job seekers select providers from a state-approved list. A defining component of WIA is the issuance of vouchers, referred to as Individual Training Accounts (ITAs). ITAs may support a range of training options, from alternative schooling for out-of-school youth to formal college coursework towards an associate degree.

Incumbent Worker Training and Intensive Skill Development - Customized training and workplace literacy programs are funded separately. WIA permits states to fund workplace and education programs for incumbent workers. Communities may provide upgrade training and services to low-income workers who are marginally employed (part-time or seasonally).

Performance-based Accountability - Accountability for the training and services must be measured by outcomes and continuous program improvements. Central to making funding decisions is the market-driven philosophy that customer satisfaction is what really defines success. What will challenge WIA boards is how to keep consumers abreast of actual results to inform their choices and advocate for programs that can flexibly meet their needs and ensure quality training.

State and Local Coordination Issues. Community leaders and local providers resolve coordination issues through informal exchanges with greater success than most agreements reached at the highest levels of state government. The broader missions carried out by state agencies often preempt discussions on better ways to coordinate services and questions related to: How effectively are services provided across agency lines? For services to be delivered in a customer-friendly manner, how would we need to define agency roles and allocate funds to maximize the resources and the rewards? How can results be measured when several programs and multiple agency staff are involved?

Most, if not all, state and local agencies with a crucial role to play in workforce development have a mindset to go it alone. Even when the South Carolina Legislature and Governor have mandated that agencies coordinate their services, such efforts have failed. In an assessment done in 2000 of six states and a dozen localities on the coordinated delivery of services to welfare recipients, South Carolina's welfare office was used to exemplify the other end of the spectrum from an integrated and jointly administered approach. This same study noticed two features that were common to every site where services were effectively coordinated. The agency staff had a prior knowledge of each other's programs and strong relationships existed which had been formed over durations of up to forty years.[28]

Other factors that this report described as obstacles to cross-agency collaboration are:

- A lack of state leadership especially by the governor, agency heads, and legislature
- No stable oversight or attention given to the significant benefits resulted from improved coordination
- Differences in agency goals and program priorities
- Sporadic funding that is tied to programs (i.e., flexible spending is required for system change)
- Limited resources of time and money inhibit cross-agency planning efforts
- Lack of managerial will power, skills, and the authority to form alliances
- Inconsistent facilitation by community leaders who understand the complexities of system change and can effectively bring together diverse groups
- Failure to account for local factors, such as economic conditions, staffing constraints, overburdened services, etc.

Coordination Issues in Rural Areas. Rural areas experience additional logistical and financial problems in coordinating services. Funding allocation formulas are heavily weighted to numbers of persons to be served. As a result, areas with fewer residents have less money to spend in making services easily accessible. This is particularly problematic in planning workforce development initiatives.

Rural economies tend to be less diverse with limited opportunities for economic growth and high-wage employment. Lancaster and Chester Counties have fared better than most predominately rural areas because of the close proximity to Charlotte, NC and its flourishing, wide-reaching economic base.

Rural communities must innovate with fewer partners and less guidance. The promising features of WIA may not be realized in rural areas unless communities build effective networks involving partners from state and local education providers, business and industry, and community nonprofit, voluntary and church-affiliated organizations. One-stop career centers in rural areas are exempted from the obligation of providing comprehensive collocated services. Residents desiring intensive and employer-based services are expected to commute to nearby metropolitan centers. The comprehensive one-stop career center serving Lancaster and Chester Counties is in the City of Rock Hill.

For community leaders to develop strong and sustainable partnerships in rural areas, they must confront these additional challenges in creating multiple paths to continuous learning.

- **Few nontraditional literacy and training programs.** Low literate adults and persons with special needs require individualized and less formal structures for learning. See Appendix, Principles of Effective Educational Practice. Public schools and colleges know the importance of moving beyond traditional, inflexible approaches but our state has few successful models. See Workforce Literacy Initiatives section. Rural education is particularly burdened by inadequate funding and staff.

- **Limited involvement of nonprofit, voluntary and faith-based organizations.** Some of the most effective literacy providers are nonprofit and faith-based organizations. They are invaluable resources in satisfying needs unmet by public agencies. Their ability to draw on charitable contributions and volunteers allows them to offer low-cost or no cost literacy and support services. Three of the nine literacy providers in Lancaster County and the Fort Lawn and Great Falls areas of Chester County are community nonprofit and faith-based organizations.[29]

- **Low Capacity in the Development of Workplace Literacy Programs.** South Carolina has an unusually high number of large businesses and industries capable of supporting stand-alone workplace education and literacy programs. This is atypical of most rural communities where the private sector is made up of small and mid-sized firms. Smaller firms lack the staffing, know-how and the financial base necessary to convert to new technologies and upgrade the skills of their workers. Only one business surveyed in May and June 2001 reported having a workplace education program in Lancaster County and the Fort Lawn and Great Falls area of Chester County.[30] Approximately 1546 businesses employ residents of these counties.

- **Seek diversified funding from multiple sources.** No single source will generate sufficient dollars to support workforce literacy initiatives. Communities must make good use of what services and support are locally available as well as investigate new sources of public and private sector funding. Workforce development efforts strengthen a community's economy; therefore investments in "human capital" are as essential as any "capital" improvement that governments are making. The S.C. Department of Commerce, local and state Chambers of Commerce, the Small Business Administration, and the S.C. Employment Security Commission should be viewed as sources of financial and technical assistance.

- **Overcome problems in transportation.** The greatest obstacle to service delivery in rural areas, the lack of affordable and reliable transportation, continues to plague rural communities. In a national survey of workers, the absence of time was mentioned as the primary factor preventing them from attending education courses. This barrier gets exasperated in rural communities when residents are confronted with long after-work commutes. Of course, that assumes they have a reliable means of transportation.

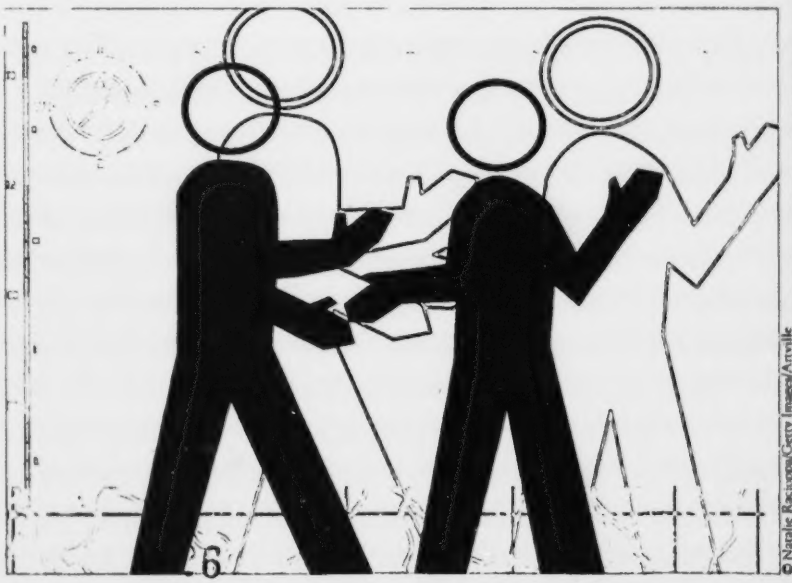
Indeed the challenges are enormous to prepare an efficient and effective workforce. No business, no higher education institution, no state agency, no nonprofit can go it alone and hope to make a difference. That is what has been done in the past. It is not working. New learning systems are needed. A new spirit of collaboration and resource pooling is required. The next section of the report highlights a few key models. The purpose of this section is not to suggest that these are the most effective practices out there. It is simply too early in experimentation to say that for certain. However, there are a variety of different model efforts that South Carolina leaders can learn from and use to go the next step. A few of these are reviewed.

What Do Workforce Literacy Initiatives Look Like?

There are countless models of workforce development systems, and combinations of lead agencies and partnerships that administer all or some of the components required for lifelong literacy learning. Workforce literacy initiatives cross all boundaries of existing systems including: job training, welfare-to-work, school-to-work, vocational and rehabilitation services, and educational providers at the elementary, secondary, adult, career/vocational and college levels. The education may be formal classroom and tutorial instruction, or non-formal applied learning at workplaces and work-like settings.

We surveyed the landscape to illustrate various approaches to systems change in workforce literacy. They proceed from smaller efforts at the community level that target certain populations (e.g., new immigrants, farm workers, urban ghetto youth) to major efforts by states to consolidate workforce and economic development systems. We also applied an all-encompassing definition of worker literacy in an effort to highlight a range of effective practices. Some begin with illiterate adults and move them along a path to mid-level jobs. Others begin with semiliterate adults (levels 2 & 3 NALS) and fast track them into promising careers with options to earn academic degrees. Still other approaches are attempting to serve workers at every stage of learning and skill development to build 21st Century skills and continue beyond to meet future workforce needs.

Partnerships are a common thread that runs through every model description. Interesting new and revitalized long-standing partnerships are taking shape across the country in an effort to supply companies with highly skilled and motivated employees. In a tight labor market and with changing skill requirements, employers are struggling to find qualified and dependable workers. They are forming alliances and trying different strategies to identify, prepare, and match job seekers to the right jobs. The solution to what is described as "human resources challenges" in Ford Foundations' report on its Corporate Involvement Initiative is "to establish links with effective community organizations, employer trade associations and educational institutions that provide workforce services beyond your company's core competencies. These collaborations can help meet clearly defined workforce objectives."[31]



Intermediaries and other unique business alliances are serving as job brokers for businesses. They are recruiting and

preparing local workforces. Several examples are described of partnerships and organizational strategies used to improve the literacy and basic skills of workers and residents from impoverished communities.

The one-stop career centers required by the Workforce Investment Act (WIA) may help foster these and other partnerships. Communities everywhere are putting core components in place for universal systems of workforce training—a mission that speaks directly to the goal of creating lifelong learning systems. This endeavor provides a starting point for many communities since key leaders and practitioners have already formed coordinated networks of training and service delivery. We describe several one-stop models with replicable literacy and skill training components.

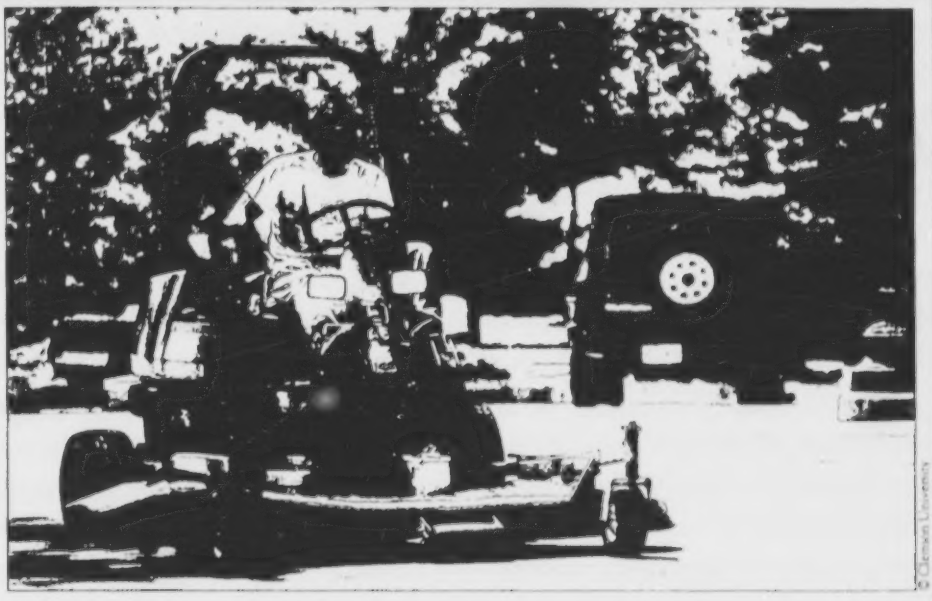
Certain states are seeing promising signs after years of systems reforms. The states of Utah, Indiana, Michigan, Texas and Florida and many others are strategically planning for service integration across agencies involved in workforce development. They are holding programs responsible for the results of the training and services provided. They are applying business values to impose higher standards of performance that are customer-friendly, market-driven, and outcome-based. The complexity of these systems and different funding streams has challenged state and local leaders for decades. Examples of successful and promising reforms and model program approaches are listed to show the many different forms innovation is taking.

A representative sample of 23 promising programs and partnerships related to lifelong learning and worker education are cited in *21st Century Skills for 21st Century Jobs* (http://vpskillsummit.gov). It profiles the types of partnerships we outline below and serves to further describe the benefits realized by the employers and workers. Because the purposes served by these models are identical to the programs in this guide, they are restated.[32]

1. Help incumbent workers get the skills they need to get new jobs in emerging high-growth fields (such as technology and healthcare).
2. Help incumbent workers get the skills they need to continue to grow in their current jobs.
3. Help individuals get the basic skills they need to enter or move up in the workforce.
4. Help dislocated workers get the skills they need to re-enter the workforce.

Nonprofit Intermediaries and Lead Agency Partnerships

Center for Employment and Training. Founded in San Jose in 1987 with support from the Catholic Church, the Center for Employment and Training retrained Mexican and Mexican American farm workers being displaced as California's Silicon Valley was being transformed from a farming community to the center of high-tech electronics manufacturing. CET focused on the lowest educated, many had no formal education or English-speaking language skills. This center was



incorporated as a community development corporation (tax exempt but revenue-producing organization) with a mission to build low-income communities beginning with its human resources. CET has always viewed its clients as the individuals in training and the area's employers. The job training is customized to meet company requirements with employers serving on Technical Advisory Committees for each skill set. Corporate members also serve on the CET board, an Industrial Advisory Board, and frequently participate in the training.

There are no prerequisites for enrollment. Enrollments can occur at any time (i.e., open entry/open exit). Persons are involved in a combination of education, GED preparation, technical skill training, and personal life skills (e.g., budgeting, crisis management, etc.) for an average of 3 to 4 months, but may extend up to six months depending on the skills and competencies required. Remedial education occurs as an aspect of the skill training, not as a separate component (an example of contextual learning). CET operates a center in The Research Triangle Park, N.C. serving a three-county area. When the program was initiated in 1995, a labor market assessment was conducted to identify technical skill needs, which resulted in the development of four competency-based training offerings in Electronics, Heating Ventilation and Air Conditioning (HVAC), Shipping and Receiving, and Automated Office Skills. Since then, a curriculum for Medical Administrative Assistant was added and the HVAC component discontinued. An evaluation of outcomes after two years of operation found that 80 percent of its graduates were employed six months later with above average earnings, and 75 percent were in jobs providing health care and other benefits. All of the trainees were welfare recipients (receiving TANF and food stamps) at the time of enrollment.[33]

Reasons for its phenomenal success is CET's comprehensive approach and long-term commitment to the trainees and employers. The instructors/counselors come largely from private sector backgrounds, yet they see their jobs more broadly as community builders—by developing literacy skills and overcoming obstacles to meaningful employment they will realize the goal of economic prosperity for all residents.[34] (Additional CET write-ups are online at Program Profiles, May 1998, www.nyec.org/ and GAO/HEHS-96-108, *Employment Training: Successful Projects and Common Strategies*, p. 26, www.goa.gov/)[35]

The Greenfield Coalition for New Manufacturing Education and Focus: HOPE. Focus: HOPE is a nonprofit organization, founded in 1968 as a civil and human rights agency to assist low-income residents in Detroit, Michigan. It partners with six corporate manufacturers, five universities, and The Society of Manufacturing Engineers in what is called, The Greenfield Coalition for New Manufacturing Education. Focus: HOPE has been training for careers in manufacturing since 1981 through its Machinist Training Institute (MTI). The training requires that persons have a high school degree or GED, a 9th grade reading and 10th grade math level.

Applicants with lower literacy have several options 1) attend FIRST STEP, a full-time remedial refresher course for 4 weeks, if they test at 6th grade math and 8th grade reading levels; 2) enroll in FAST TRACK for 7 weeks of intense academic, computer literacy, and life skills course work to prepare for MTI, if tested at 8th grade reading and math levels; and 3) participate in an advanced high school dual enrollment program in which juniors attend MTI classes part-time. Trainees lacking a high school degree are referred to cooperating partners for GED-prep and the GED examination. On average, two-thirds of the FAST TRACK participants complete this curriculum and enter MTI training. MTI is a three-phased program (i.e., an initial 5-week followed by two 26-week sessions) of applied learning, where time is split between classrooms and the shop floor. Trainees are typically young African American men ranging in ages from 17 to 23 years. Graduates are placed in manufacturing jobs that generally earn an hourly wage of $9.50 to $11.

The Greenfield Coalition supports advanced training in engineering through Focus: HOPE's Center for Advanced Technologies (CAT). A select group of MTI graduates receives the same integrated training, that is, hands-on skill training in combination with academic studies in a production setting. The CAT training is accepted for credit through a partnering university and may confer an associate's degree after 3 years and a bachelor's degree after 4.5 years. Since the first class graduated in 1993 up through the fall of 2000, CAT has placed over 200 trainees; 55 students have earned college degrees.[36]

YouthBuild USA Model for Out-of-school Youth and Crispus Attucks' YouthBuild. A nationally recognized model for empowering youth leadership and skill enhancement, while engaged in community revitalization, was founded by Boston area youth with encouragement from Dorothy Stoneman and Fatima Marouf. The program was replicated in the early 1990s by the U.S. Department of Housing and Urban Development funding under HOPE, Title VI. There are over a hundred YouthBuild sites across the country using the curriculum and training materials developed by YouthBuild USA. Seven received awards by the National Youth Employment Coalition's Promising and Effective Practices Network (PEPNet), included among them is Crispus Attucks' YouthBuild in York, P.A. It was also selected as one of fifteen exemplary youth programs in the country for its results with juvenile offenders.

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Crispus Attucks is a community development corporation with a mission of providing affordable housing to residents from low-income neighborhoods. YouthBuild began in 1994 as a youth component of a low-income housing rehabilitation project. Five years later in 1999, the program became a charter school. It now is a twelve-month day school that provides an integrated academic and vocational training curriculum to over a hundred students each year with the combined goal of obtaining a high school degree and certification in the construction field. The youth range in ages from 16 to 24 years. They specifically target high school dropouts, nonviolent offenders, and youth from poor families. A majority are men (22 percent are women), 40 percent qualify for special education, and 85 percent test positive for drugs when screened prior to enrollment.

The first two weeks of the program concentrates on group activities for team-building, life skills, and mental toughness training as well as provides individual counseling and drug treatment. A requirement of graduation is to be drug free. The students alternate week-to-week from classrooms to worksites. Academic instruction is integrated on the job site with applications in every area of housing construction. Students receive training allowances for classroom and on-site training (the equivalent of minimum wage); however, their pay is subject to weekly evaluations of workplace attitudes, demonstrated values (i.e., leadership, respect, persistence), and job performance. Students are also expected to perform community service projects with support from peers, mentors and community leaders.

Crispus Attucks assists with job placement and follow-up of all graduates. They encourage employers to establish Individual Learning Accounts with contributions coming from the graduate's paycheck and matched by the employer. This is designed to pool assets in behalf of the graduate for use in continued education and training. Employers participate in various aspects of the school's program from advising on curriculum improvements to making additional contributions for recreation activities and team sports. High school diplomas are given to students after demonstration of an 8th grade reading level. Most graduates (74 percent) are employed at the program's completion and the recidivism rate for youth offenders is less than 5 percent.[37]

Summary of Key Elements. These three nonprofit organizations exemplify effective practices in adult literacy and frame methods for implementing successful programs of continuous learning. Pathways were created through a series of partnerships that allow jobless, illiterate and low-income workers to progressively obtain skill competencies and flexibly meet the customers' needs—employers and workers. Characteristics and practices that each replicates are:

- Programs have broader missions of improving the economies of low-income communities and enabling persons to chart a continuous learning path to higher paying, quality jobs with a future.
- Partnerships with employers and high-performance firms are core elements. CET and Focus: HOPE assists employers (as well as trainees) with job matching services and expertise.
- Intense remediation is offered that is individualized: open entry/open exit enrollments, various options presented for literacy development, and assessment-based learning goals.
- Use of contextual learning that is work-based with concepts from classrooms applied, if not learned, at the worksite.
- Learning occurs while workers remain connected to job sites: YouthBuild students work and are paid for housing repairs; CAT trainees receive advanced training once employed and obtain academic credit for hands-on skill training; and CET training simulates work settings based on actual workplace assessments and the continual advisement of local employers.
- Wrap around support services are provided by the agencies and in partnership with community-based and public agencies.
- A comprehensive approach is taken in building life skills, personal self-esteem, civic responsibility, leadership skills, and strong 21st Century literacy skills.
- Lengthy follow-through and workplace assistance is offered to ensure that personal and career goals are met: program completers are assisted with job placements and their on-the-job progress is routinely tracked. Quality job placements are developed through close working partnerships with area employers.

Business and Industry Coalitions and Partnerships

Companies that hire the most employees in this country are generally the least able to support the added costs of training. Small and medium-sized companies are frequently overlooked as viable options for workforce education. When federal support for customized training programs was restricted to the jobless under U.S. Department of Labor programs, smaller companies did not participate because they were unable to hire sufficient numbers of trainees to justify class-size training

programs. Moreover, their training needs were too diverse to be satisfied by a single skill-building curriculum. Coalitions are forming among like-minded businesses willing to share in the costs and the benefits of training qualified job candidates. Business alliances and chambers of commerce have also promoted these partnerships as a means of assisting businesses in adopting high-performance work practices. Some are actual conduits for these alliances. After assisted in the planning, they organize the sharing of resources in the administration of joint training efforts with community colleges and other education or service providers.

Efforts such as these are showing promising signs of systemic change that is shoring up local economies and creating good-paying jobs with futures. Referred to as **sectoral employment strategies,** these coordinated approaches to skill building target entire industries and occupational clusters in order to raise the overall proficiencies of workers within one or several "sectors" of employment. Coalitions designed to administer industry-focused job training programs take many forms. They may be comprised exclusively of businesses (e.g., the Welfare-to-Work Partnership), or a single intermediary agency (public or nonprofit) may be the key organizing entity for a coalition of businesses. Two previously discussed models exemplify sectoral employment approaches led by nonprofit intermediaries, namely Focus: HOPE and the Center for Employment and Training. They serve a similar role as job brokers for low-income and semiskilled individuals, connecting workers to key employers, to fill demand jobs with career paths and higher earnings. Whether the programs work to restructure the nature of jobs or simply match disadvantaged and low-skilled workers to good jobs, they all strive to positively affect the area's economy for everyone's benefit. The Seattle Jobs Initiative, Wisconsin Regional Training Partnership, and the Midlands Literacy Initiatives are attempting to "reach the scale" that will produce a widespread systemic impact.[38]

The two South Carolina firms featured were recognized by the National Alliance for Business as having met the national criteria for *Best Company Awards for Continuous Learning.*

Seattle Jobs Initiative (SJI). This is a regional job brokering service that connects job seekers with low-incomes to high demand jobs in the

targeted sectors of health care, manufacturing, construction, and office services. The jobs are entry-level and semiskilled, however, they provide livable wages with benefits and opportunities for career mobility. SJI works with industry associations to identify industry needs and skill expectations. It serves as a "one-stop" service of job matching for these employers in partnership with community-based organizations. SJI assists in creating learning opportunities at the worksites, through job ladders and education programs for incumbent workers and supervisors. It coordinates the development of short-term job training courses and apprenticeship programs at community and technical colleges to prepare job seekers with skills common to these industries. Another job brokering role is to inform employers on federal tax credits for hiring disadvantaged residents and connect them with the City's economic development services to access other financial and tax incentives.

By contracting with ethnically and geographically diverse community agencies, SJI provides job seekers with many different routes to quality jobs. Each agency is contracted to 1) outreach for jobless and underemployed residents; 2) assess the participants' skills, aptitudes, and obstacles to employment; 3) assist them with job readiness courses that develop communication and employability skills; and 4) closely support the participants through job readiness, training, and placement. The community agencies assist in overcoming any obstacles to a person's participation in training and employment by fully utilizing and involving other public and nonprofit human services, child care and transportation providers. SJI staff continues to follow the workers' progress and enables further support with the goal of long-term job retention and upward mobility.[39]

Wisconsin Regional Training Partnership (WRTP). The WRTP may be the country's oldest and largest regional sectoral consortium. It was established in 1992 by business and labor leaders in the City of Milwaukee as a public/private partnership to advocate for the employment and training needs of workers, while at the same time satisfying industry's needs for skilled labor in an increasingly competitive manufacturing climate. The consortium includes 46 firms employing over 50,000 of the state's residents in machining, electronics, plastics and related sectors. Over half of the firms are small to midsize with a workforce of less than 500 employees. The WRTP assists its members to modernize with the adoption of new technology and work processes. It helps job seekers and disadvantaged workers to train for higher skilled jobs earning family-supporting incomes. More recently, the WRTP is working with incumbent workers to institute models of lifelong learning that will enable them to meet future workforce challenges. These partnerships, and the training opportunities that have ensued, are believed responsible for preserving the manufacturing sector, which in turn has safeguarded the economic vitality of the region and the state. The University of Wisconsin-Madison, Center on Wisconsin Strategy (COWS), participated in every stage of the WRTP's development and authored an implementation guidebook, *High Performance Partnerships: Winning Solutions for Employers and Workers*, that is available at http://www.cows.org/pdf/jwf/jwf-dwdbook.pdf.

Welfare-to-Work Partnership, National Alliance for Business. A coalition of businesses along with state and national leaders signed up in 1997 to form the NAB Welfare-to-Work Partnership. Some of the early initiators are Burger King, Monsanto, Sprint USA, United Airlines and UPS. Thousands of businesses are now involved. This partnership of businesses was conceived to help other businesses set up in-firm training programs and hire welfare recipients. Larger companies have even supported the training for smaller companies that agree to hire the trainees.

The **United Postal Service** has partnered with nonprofit organizations in over 40 states across the nation to recruit welfare recipients who, with the right combination of training and support, will become part of the UPS workforce. UPS provides work-based job training, along with reading and computer classes. The trainees are assigned to positions in loading, unloading and package handling that start out paying $8.50 to $9.50 an hour with benefits. When community groups brought up the problem of transportation for lengthy commutes to an outlying facility, UPS provided van services between two large cities. Two months later its ridership was determined to be significant enough for the state to justify creating a bus route.[40]

The United Way of the Midlands Literacy Initiative, Columbia SC. The Midlands Literacy Initiative (MLI) is a business-driven, community initiative that was started in 1994 by the United Way of the Midlands. MLI's mission is to promote systemic reform that will result in a lifelong learning system to assist adults in gaining the skills they need to be successful and self-sufficient. The Initiative's success rests by and large on the working relationships that have been established with business and industry, education, and public agencies. They had a shared commitment to develop a basic work skills curriculum for undereducated adults. The curriculum was specifically designed to enhance the opportunities of adults whose job opportunities were very limited and to meet industry needs for skilled workers. Based on sound research, the content of MLI's curriculum and classroom instructions reflect the skills that employers feel are most necessary. As a result MLI has improved the basic and work-related skills of over 600 adults in the Midlands community.[41]

Georgetown Steel Corporation, Georgetown SC. Georgetown Steel identified low literacy as a potential obstacle in plans to transform its productions and management style. When the project began in 1991, the plant was converting to advanced technologies so employees needed computer basics, along with improved literacy and communication skills to implement the management goals of greater employee involvement, continuous improvement, and statistical process control. They partnered with Horry-Georgetown Technical College to implement Project LEAP (Literacy Education: Achieving Productivity).

LEAP is a workplace education program designed specifically for 484 Georgetown Steel employees. Course curriculum and instructional materials were prepared to teach in-house classes in reading, writing, math, communication skills, problem-solving, decision making, and time management. Although designed to increase job competencies, LEAP also benefits workers with greater prospects for job advancements, an ability to better manage change, improved job satisfaction, and higher self-esteem. Individual assistance is provided in the form of counseling and support services. Expected outcomes for the company are improved productivity, higher quality products, improved safety, increased efficiencies, and lower operating costs.[42]

Robert Bosch Corporation, Charleston SC. The Robert Bosch Corp. is a top U.S. manufacturer of fuel injectors and anti-lock braking systems. The Charleston plant is fully owned by the parent company located in Stuttgart, Germany. It has a steady workforce of 1,675 with up to 10 percent additional support from temporary employees. Before a promising candidate is hired, he or she must attend an intensive 9-week pre-employment training program which consists of hard and soft skills training. Employees are encouraged to attend local colleges and technical programs with an offer of full reimbursement for tuition, books and expenses even if the course work is not related to their jobs. If they attend courses to gain mandatory job skills, they are paid for their time in class as well. Employees are required to maintain a minimum grade of "C" to receive the tuition reimbursement. The plant spends $593,000 in a typical year or 3 percent of payroll on employee training. Temporary employees may avail themselves of the same educational opportunities. Each employee spends approximately 100 hours a year in training paid for by the company. This includes a two and-a-half year apprenticeship training program for qualified employees (based on passing scores on tests of knowledge and skills, math, manual dexterity, and drug screening).

Apprentices attend 8 hours a week of classes at Trident Technical College in courses of math, drafting, machine shop theory, human relations, materials, physicals, numerical and computer numerical control, technical report writing, hydraulics, electricity, pneumatics, and statistical process control. Many of the courses are prepared specifically for Bosch employees. The remainder of the work time (32 hours) involves applied learning on the shop floor by training department

staff. Generally, the apprentices pass and obtain a journeyman status that results in increased pay and access to additional upgrade training.[43]

Summary of Key Elements. These business coalitions and public/private partnerships are effective strategies for developing workforce skills for incumbent workers and anyone seeking pathways to career opportunities. Another reason why they are highly publicized is for the results produced overtime in strengthening local economies. Older industries and manufacturing firms have been revitalized because of human capital investments. As these examples show, improving workforce literacy produces greater profits for companies and better jobs for workers.

Traits common to these quality workplace and work-based programs are:

- The goal of workplace literacy and skill training is to equip the workforce from the bottom-up with the knowledge and skills needed to help transform and modernize work processes, improve productivity, and become leading competitors whether an individual firm or regional coalition.
- Business alliances, chambers of commerce, public education, and state economic development leaders are equally committed and share in the long-term costs of continuous workplace learning.
- Whether the learning takes place in schools and colleges or at the workplace, workers are encouraged to upgrade their basic and technical skills through customized programs that apply knowledge to actual worksites and build the workers' self-confidence to continue to develop skills for high demand occupations.
- Career advancements are available to any and every worker who takes advantage of learning opportunities internal to a company or by means of enrollment in community-based literacy programs. Ideally, companies should contribute to these efforts by supporting workers with cost reimbursements, work release time, and needed supports.

Public Agency Lead Partnerships

States and educational providers are exploring alternative ways of delivering adult-centered and work-based education and training. They are attempting to adapt to changes in workplaces and family demands by introducing flexible and individualized learning methods. They are also experimenting with e-learning strategies and the use of electronic technology to transmit instruction in numerous postsecondary settings.

Educational providers have had to rethink approaches to learning in light of changes in work demands and the needs of adult learners. The traditional profile of young full-time students in American universities and colleges is now the nontraditional, older working adult. They come seeking knowledge that is relevant to their jobs, to build on skills gained from work to be transferred into new careers

and work settings. They also come with different family obligations and financial needs that few college campuses are prepared to meet. Similar to the private sector we find many public visions of lifelong learning systems, but few models.

An excellent resource that lays the foundation for change in higher education, citing exemplary principles for each element of system building, is *Serving Adult Learners in Higher Education, Principles of Effectiveness*. A summary is available online at www.cael.org. As this report advises, educational opportunities can be improved through "strategic relationships, partnerships, and collaborations with employers and other organizations."[44] It stresses thinking of the workplace as a source of outreach, a venue for introducing workers to educational options, similar to relationships formed with public high schools. It suggests a reversal in school-to-work notions.

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Besides the following examples of higher education partnerships with private firms and community nonprofits, you may want to refer to models in other sections: The Greenfield Coalition for New Manufacturing Education, Georgetown Steel Corporation, Portland Community College, and Central Piedmont Community College.

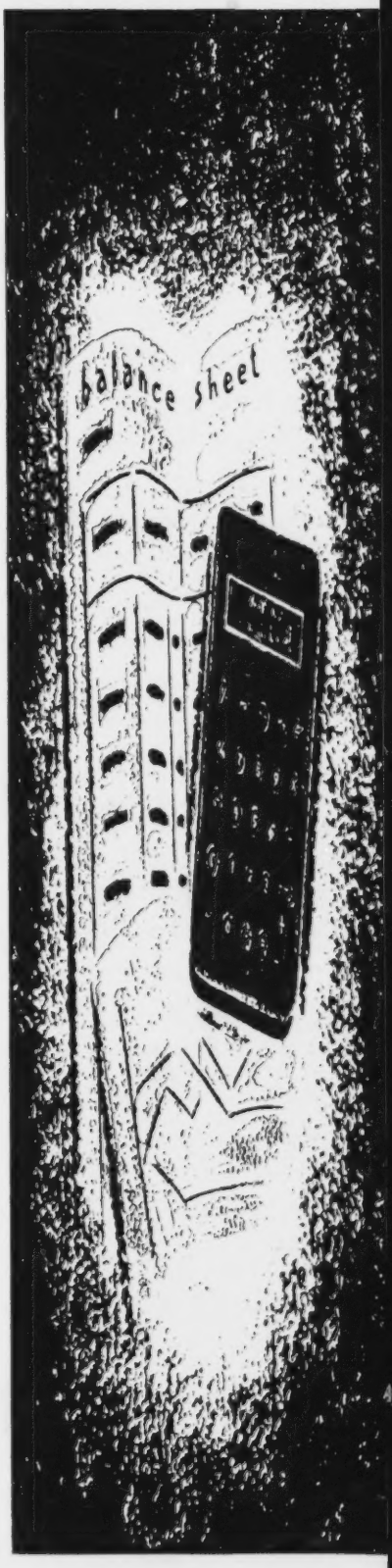
Commonwealth Corporation, Massachusetts. CommCorp is an outgrowth of the Bay State Skills Corporation, a state trust and awards program that assists businesses with workplace innovations, and prepares students and workers for success by means of industry-driven training. This is a quasi-public organization which was selected to become the State's primary workforce development planning and funding agent. Its mission is "to meet the labor needs of businesses; improve current and emerging workers' skills; foster career success

through lifelong learning; and retain, sustain, improve and create job generating businesses" (see www.comcorp.org/). Developing an effective workforce development system that expands industry-driven training services is seen to be central to the state's economic development. An industry/community college partnership that began in the fall of 2000 gained the attention and support of the Massachusetts legislature. Similar partnerships are being encouraged to expand the evaluation and design of skill-based curricula.

With grant support from CommCorp, the Mount Wachusett Community College explored a training design to relieve the critical shortage of skilled workers in the plastics industry of North Central Massachusetts. The college successfully recruited priority groups (e.g., minorities, limited English-speaking, and high school graduates) and trained them for industry jobs that progressively followed a learning continuum beginning with entry-level skills and advanced to skill enhancement, upgrading, and finally to specialized training.[45]

Center for Workplace Learning, Lewiston and Auburn, Maine. The University of Southern Maine's Center for Workplace Learning is completing a 3-year Workplace Learning Partnership project (WLPP) supported by an Incumbent Worker Training grant with the U.S. Department of Labor. It was selected as one of thirteen national sites to demonstrate a model for providing basic skills to workers from 6-10 small and mid-sized manufacturers in the Lewiston and Auburn communities. The project was a collaborative effort involving the communities' adult education programs, technical and community colleges, and the chamber of commerce. Activities were conducted at seven locations to equip workers with basic computer, customized math, English refresher, employability and communication skills. A total of 65 classes were designed with input from employee-led advisory groups. Over 305 employees across seven companies attended the classes - 41% attended two or more classes. Samples of 16 courses are available online at: http://www.usm.maine.edu/cwl/sample_courses.htm.

Agricultural and Literacy Network (A-Lit-Net), Mt. Pleasant TX. In response to industrial declines through the 1980s resulting in 13 percent and higher unemployment rates in a nine-county region of northeast Texas, a business/education partnership was formed with the Northeast Texas Community College, Pilgrims Pride Corporation, Tyson Food Inc., and a Literacy Taskforce, consisting of private business and public agency representatives. Agribusiness in this area was vocalizing concerns that a shortage of literate workers was preventing the adoption of needed technologies and new quality control measures that were reliant on problem-solving skills. The college introduced the A-Lit-Net partnership by commissioning a Literacy Taskforce to examine on-the-job literacy requirements and design workplace education plans for targeted agricultural industries and occupations. A literacy audit was conducted at select businesses, first involving Pilgrims Pride Corporation and Tyson Food and later expanded to include Lonestar



Steel. Skill deficits and requirements noted from the literacy audit were incorporated into the college's Agricultural 2+2 and literacy programs to upgrade the skills of frontline supervisors and assistant managers in poultry production and processing. From this early experience in workplace literacy auditing, the college developed a taxonomy of skill requirements and accompanying *Handbook on Customizing Workplace Literacy to Employer Training Needs*, in an effort to stimulate private sector leadership in expanding workplace learning opportunities.[46]

Laurens County School-to-Work and Lifelong Learning, Laurens SC. The Laurens County Lifelong Learning center has a model program referred to as *Building Better Employment Skills for Tomorrow (B Best)*. It gained national recognition when named as one of thirteen "performance partners" in the 21st Century Skills Network—the only adult education/K-12 program. The B Best model uniquely connects adult education and K-12 systems to provide a seamless pathway for students and adults to prepare for industry jobs. This is an outgrowth of alliances formed between schools, and local business and industry after years of partnering on School-to-Work and Workplace Education Programs. With information from job task analysis performed for every participating company, the center staff has identified the specific skills required for jobs by industry. They then prepare competency-based curriculums for similar job tasks for use in training programs at workplaces, in high school Tech Prep courses, and in adult pre-employment programs.

More than 25 companies, largely manufacturing firms, are reaping the benefits of this comprehensive design with a higher quality workforce now and in the future. Because of the exceptional results and requests from companies to participate in neighboring counties, the program has grown to include schools in six counties, along with other public and community agencies which assist with outreach and support services. The SC Manufacturing Extension Partnership is promoting the B Best model for statewide dissemination.[47]

South Carolina's Tech Prep Consortia. One exceptionally promising example of interagency collaboration involved representatives across business and industry, state job training, and educational systems at the state and local level. In response to the enactment of the federal School-to-Work Opportunities Act, South Carolina created at statewide system of career preparation that introduces students in middle school to career opportunities and then continues with a progressive curriculum and array of work-based learning activities through two years of post-secondary training and, potentially, enrollment into 4-year colleges or universities. Partnerships that culminated in the implementation of the South Carolina School-to-Work Transition Act of 1994 continue to exist through 16 Tech Prep consortia, even though federal and state support has been eroded.

Technology Solutions

The new economy offers incredible opportunities to individuals and families who are positioned to take advantage of them. Because of the fluid nature of the labor market, one must continually look ahead and anticipate what skills will be essential for future jobs in future industries. Concerns raised by the U.S. Department of Commerce in its 1997 report, *America's New Deficit: The Shortage of Information Technology Workers*, warned that "the demand for workers who can create, apply and use information technology goes beyond those [software and computer] industries, cutting across manufacturing and services, transportation, health care, education and government."[48]

The digital revolution is pervasive, leaving few areas untouched by its impact. Growth in the high-technology sector more than doubled in the last ten years. Shortages of IT professionals are seen to be jeopardizing the competitive standing of our economy. These concerns led to the creation of a study commission, authorized by the 1998 Workforce Investment Act (WIA), to examine the policy implications and recommend innovative strategies to stimulate the supply of adequately trained IT workers. What presents the greatest challenge for literacy skills development in the 21st Century may in itself be part of the solution. The introduction of technology in the workplace is placing greater demands on workers in how work is organized and managed. It is also at the forefront as a way to enhance learning in an applied manner—learning continuously anywhere and at any time. Whether used for an individual's professional development or the creation of a learning community within a workplace, the promise of web-based learning is becoming a practice in many homes, schools and workplaces. In the Web-based Commission report, the new Congress and Administration were asked to "embrace an *e-learning* agenda as a centerpiece of our nation's federal education policy" (December 2000).

Four literacy providers in Lancaster and Chester Counties presently use computers in delivering instructions to high school students and adults.[49] Other resource agencies and potential literacy providers surveyed expressed an interest in computer-based learning. Recommended sites for obtaining e-learning curriculum for adult literacy and language skills are listed in the Literacy Resources section.

We selected the following e-learning models to illustrate systemic models related to workforce literacy initiatives. Several examples describe how e-learning reaches workers and workplaces in rural and remote areas. Some leading states and higher education coalitions are putting into place an infrastructure for continuous education and upgrade training using web-based technologies.

Kentucky Academy of Workforce Development. A grant-funded project is supporting an e-learning approach to upgrade the skills of incumbent workers in retail industries. The Adult Centers for Educational Excellence (ACE2), located in Hopkins County, is administering this new approach to literacy skill development.

Workers in the rural communities of Caldwell, Crittenden, Hopkins, McLean, Muhlenberg and Webster Counties are accessing computer-assisted literacy instructions through the Internet, using Invest Learning software, and through a cable broadcast video training series. The broadcasts feature area businesses and showcase the skill standards of actual workplaces. Additional tutorial support is available at remote "hot line" locations that workers can link to from their homes, business sites, or at a storefront training center. The project intends to serve 600 to 800 adults. The current project partners are: Madisonville Community College, Hopkins County Schools, Madisonville Technical College, Madisonville Economic Development, Commonwealth Cablecomm, and Western Kentucky Online Inc.

The Virtual One-Stop. With all the attention given to "physical" decisions relating to the one-stop career centers on matters of location, type of facility, and whether to be a full-service or referral site, interest is growing among state innovators on the possibilities and advantages of the Virtual One-Stop. Larger metropolitan and highly populated counties are required by law to have one physical full-service one-stop center, but in the defining language of WIA, center services may be augmented by "electronic access points." In remote rural areas and in urban centers with more providers than space can afford, networking electronically may be more efficient and feasible. For a tour of what a virtual center may offer click on: www.VirtualOneStop.com, presented by Paul Toomey, President of Geographic Solutions

Joint Venture: Local Colleges Partnerships in Silicon Valley. An unusual twist on the concept of an intermediary is Joint Venture, a coalition of Silicon Valley companies in Santa Clara County, California. This nonprofit organization was formed to spearhead reforms in the postsecondary education system. Representing the interests of its high-tech constituents, Joint Venture has successfully engaged a broad segment of companies and educators in strategically planning for a system of higher education and lifelong learning that will meet the needs of the high-tech community. In the heart of Silicon Valley the demand for continuing education is extreme. Over 70,000 workers were enrolled last year in short-term courses at extension programs in Santa Cruz and San Jose State Universities and at the Foothills-DeAnza Community College.[50]

Virtual Universities and High-Tech Networking. Practically every state university offers distance learning courses broadcasted over satellite and fiber-optic links. The courses usually originate live from a campus studio or are taped for later broadcast and CD distribution. State innovations with e-learning typically enhance this existing infrastructure to make it more versatile, interactive, and learner-based. In some instances, courses are available to all students for credit at any public postsecondary institution and affiliated colleges. Distance learning is also being used as a vehicle for literacy skills. Pennsylvania went statewide with LiteracyLink, a program to assist adults preparing for the GED examination. It offers 39 half-hour

classes televised statewide through its PBS station. LiteracyLink expects to expand this service with online web-based instructions at www.pbs.org/literacy. This is an effective vehicle for providing customized training to workers especially in meeting corporate standards that can be generalized to jobs within an industry or occupation. E-learning gives workers and employers access to the "best-in-class" content from any location.[51] Because of the high costs in equipment and expertise, most states are encouraging the formation of coalitions among colleges and universities. These partnerships are increasingly involving corporate partners as advisors both in the development of the delivery systems as well as in designs for the course offerings and content. Two states that are seeing the rewards of collaborative public/private designs are California's and Michigan's Virtual University (see MVU information at www.macul.org/newsletter/1999/march99/fitzpatrick.html.)

South Carolina Partnership for Distance Learning (SCPDE). South Carolina is a leading innovator in distance learning, across all school levels from K-12 through graduate school. It was a natural progression for the South Carolina Partnership for Distance Learning (SCPDE), founded in 1999, to explore e-learning applications in order to increase access and the use of electronic education. SCPDE is a consortium of public university and private colleges, K-12 school districts, public libraries, government agencies, and businesses. Consumers and providers of education services are invited to participate in the planning and the shared cost of implementing distance and web-based learning opportunities. The Legislature allocated funds to study the state's capacity, help coordinate systems designs, and manage a clearinghouse, the Virtual Resource Center, to give members easy access to online resources and a complete listings of available courses. For information, visit the website at www.sc-partnership.org.

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Summary of Key Elements. Workforce development can be supported and facilitated by insightful state leadership that directs public agencies to cooperate with workers and firms in addressing the literacy and skill deficits of local workforces. Public universities and schools can assist communities in assessing workplaces. They are uniquely suited to determine the right combination of innovation and skills required to transform small- and mid-sized firms that could not otherwise accomplish this task alone. The benefits of coalition building among firms and educational providers are well documented by these examples:

- Workplace assessments of business and industry sites within an area (county or region) give important profile information to schools and postsecondary training programs on worker literacy deficits and the skill sets needed for most jobs.
- Public intermediaries, in partnership with business coalitions, are making tremendous in-roads in bridging the skills gap and improving workforce literacy. They help articulate the needs of business and industry as well as broker relationships between literacy providers and community-based organizations with access to a readily available pool of skilled workers and job seekers. These partnerships assist schools in designing authentic work-based curriculum for use in upgrading workers' skills and in applying the same lessons in reforming career preparation courses.
- The pooling and leveraging of resources (both in funds and expertise) is vital to the success of workforce literacy initiatives. State-authorized public and private agencies have been effective brokers in satisfying the continuum of workers' and employers' needs for education, basic skills, and upgrade training to reach 21st Century literacy levels.
- Rural communities face the added difficulty of how to provide an assortment of work-based skills for occupations with few workers, and firms with dissimilar skill needs. Consortium approaches have been the best recourse in these situations. Especially when literacy levels are low for a majority of the workforce, education and business partnerships can explore innovative ways to draw on community resources and voluntary agencies to collectively equip workers with desperately needed literacy skills.

Integrated Service Systems and One-Stop Center Models

Communities that have for decades worked to reform systems in support of workforce literacy and economic development are receiving national attention as models to emulate in planning One-Stop Career Centers under the Workforce Investment Act (WIA). These early models often developed in response to an economic crisis. Local economies devastated in the 1960s and 1970s by the loss of its predominate industry or agricultural "small farm" base invested in workforce education with the goal of attracting other job-generating businesses. Expanding on the success of early public/private collaborations, WIA seeks to replicate these integrated methods of service delivery by mandating that communities create one-stop access points for universal and lifelong learning.

Support for the one-stop career center design also grew out of criticisms that states were not doing enough to consolidate programs into unified workforce development systems. WIA dictates that local 5-year plans, recommended by business-led advisory boards, determine the needs of customers—employers with unmet job demands, and individuals seeking jobs and career opportunities. A core

set of employer services are available by means of obtaining self-help information on the Internet, on-site technical assistance at full-service centers and from other public access points and providers. See Table 3 for core service listing. Individual job seekers are assisted following a three-tiered approach.

(1) **Core services** are provided on-site and through Internet to make information universally available on labor market trends, demand occupations, job listings, and approved training providers.

(2) **Intensive services** involving individual job counseling and case management are targeted to persons qualifying as "not job ready," such as welfare recipients and others with serious obstacles to employment.

(3) **Training services** are offered on-site and through contract arrangements to unsuccessful job seekers after all other forms of self-help and brief staff-assisted services fail to result in job placements.

Portland Community College's One-Stops and Open Campus Customized Workforce Training. City and county officials, and key staff in Portland, Oregon were early achievers in streamlining education and training programs. Twelve years ago the city applied "human-capital-investments" as a principle strategy in alleviating poverty among its poorest residents and neighborhoods. This was facilitated by Oregon's decision to divide the state into 15 workforce development districts and designate Portland Community College (PCC) to administer the district's Adult and Family Services. PCC implemented a nationally recognized literacy program, *Steps to Success*, with funds consolidated across adult education, welfare-to-work, and job training. The program successfully transitioned single mothers off welfare by improving their basic skills and moving them progressively along a pathway to high school completion and enrollment in post-secondary education. To comply with the work-first policies ushered in by welfare reform and WIA legislation (see descriptions in Appendix), PCC created a "hybrid system" that combines short-term training with worksite learning experiences made possible through employer-sponsored internships and subsidized employment.

Taking full advantage of WIA's flexibility, the City of Portland further collapsed funding steams into one cohesive workforce development system and directed services to be comprehensively delivered through a network of one-stop centers. PCC, in partnership with Worksystems, Inc. (Portland's Workforce Investment Board), has creatively adjusted to demand-side concepts and is strengthening ties with small- and medium-sized businesses. It also serves an intermediary role in the collaborative development of programs by convening meetings with employers, schools, community-based organizations and state agencies. An Open Campus design is reaching low-income individuals and communities by placing instructors at one-stops and with community-based organizations. Working with a consortium of businesses, the Open Campus

Customized Workforce Training was launched with the desired outcome of moving low-skilled workers into entry-level jobs with opportunities for advancement. Surveys conducted at the business sites found that 60 percent of frontline workers lack the literacy skills to move out of entry-level jobs. While still responsive to employer needs for training to meet national standards and computer applications, the customized training gives low-wage, low-skilled workers clear pathways to stable careers with good earnings. Toward this aim, PCC has an on-going commitment in its curriculum development to bridge academic 2- and 4-year programs with the innovative contextual learning and remediation courses held at workplaces and one-stops.[52]

Goodwill Industries International and the Kenosha County Job Center, WI. Goodwill Industries International, Inc. is a founding member and former host agency for a nationally recognized one-stop center in Kenosha, Wisconsin (see One-Stop Innovations, http://heldrich.Rutgers.edu/). This one-stop is a model for public collaboration in the comprehensive delivery of "customer-focused" services. As the initial administrative agency, Goodwill leased a downtown shopping mall and assisted in its conversion into a multi-service community center. Twenty-two (22) agencies and 200 service personnel are presently housed at the facility. Goodwill Industries' reputation is unparalleled for training and placing hard-to-serve populations, especially persons with disabilities and multiple barriers to employment. In 2000, Goodwill served 448,563 individuals and reported $1.85 billion in revenues-84 percent of its revenues are channeled back to programs and services. Since WIA's inception, it has been instrumental in founding and managing over 130 one-stop centers across the country.

Goodwill Industries of South Piedmont presently manages a full-service (4,000 sq. ft.) one-stop career center to serve residents along the South Boulevard corridor in Charlotte, North Carolina. Goodwill leased and upfitted this shopping center space in coordination with and support from the City of Charlotte and the Charlotte-Mecklenburg Workforce Development Board. Goodwill Industries' has a full-time staff of three to administer daily center operations. They coordinate the delivery of self-help services through the Resource Center and track the progress of individual's seeking assistance by assessing the quality and outcomes of the services rendered. Most services are provided by public agencies. The center staff facilitates cross-agency referrals and case management duties through the formal assignments of roles in Memorandum of Understanding (MOU). They also conduct instructional workshops on JobLink processes and hold routine meetings with the center partners. Additional agency partners are solicited to augment the core activities. For example, a credit counselor is available one day a week, Services for the Blind supply the Resource Center with materials for the visually impaired, and the Central Piedmont Community College provides adult basic education classes two days a week. A contract was issued with a community-based group to instruct center staff

on effective communication techniques and cultural sensitivity issues related to working with a growing Latino population. During the program year 1999-2000, the number of persons receiving basic information and core services totaled 1200; an additional 250 persons were individualized case managed.

Goodwill Industries of the Southern Piedmont also administers a successful *Careers in Banking* program. Over 100 persons have been trained in career-specific skills (e.g., 10-key operation, proof encoding and keyboarding) that meet American Institute of Banking standards and the needs of financial professionals and bankers in the community.[53]

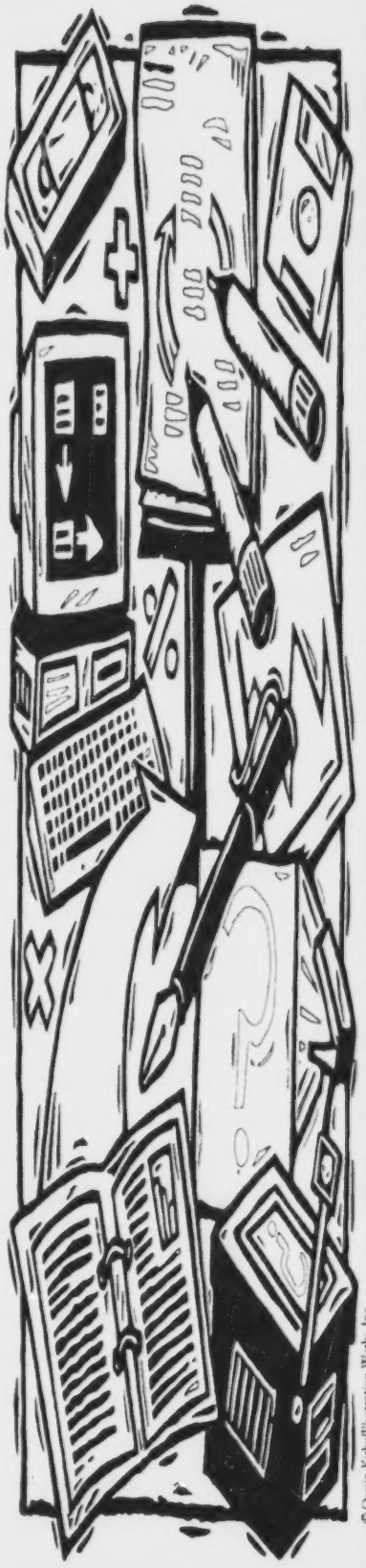
Summary of Key Elements. It was amazing for communities to initiate broad-based workforce literacy endeavors before the mid-1990s. The restrictive and categorical nature of federal programs prevented any meaningful consolidation. Testimonies on state reforms substantiate that such efforts are a credit to state and local leadership (see following description). An overriding element of success in the development of integrated and one-stop delivery systems is the existence of strong ties and histories of private sector support for education and job training. Other characteristics found to be prevalent among effective service models are:[54]

- collaborative working relationships among local workforce practitioners;
- state support for collocation and consolidated plans but which allows for local adaptations;
- participation by direct service staff in planning seamless delivery systems;
- cross-program exchange of information that makes it easy for staff to communicate from different agencies; and
- capacity development of staff and systems to deliver integrated services.

State Reforms and Systemic Models of Change

State reforms tend to revolve around two goals. First, by initiating changes in policies and administrative structures, governors and state legislatures are trying to simplify and piece together the components of a workforce development system. They are consolidating education and training programs that at one time involved more than seventy separate federal and state programs. Short of creating new departments, some states established coordinating councils and interagency commissions to streamline how services are delivered. The second goal relates to state efforts to link the loosely associated job training programs to core strategies in educational reform and economic development. This seems to be the direction of the frontrunners. An effective workforce development system that serves the literacy and skill training needs of the state workforce is the best assurance for producing economic growth with high-wage jobs.

State of Utah, Department of Workforce Services. Utah was among the early implementers of WIA because it had already begun the work of systems reform. Inspired and promoted by the Governor, the Utah Legislature passed legislation that



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reflected the same market-driven, customer-oriented sentiments. It went further than other state reforms to consolidate welfare and workforce programs into a Department of Workforce Services. Oversight for this integrated system of job training and placement programs was assigned to state and regional councils. A businessman was appointed to lead the agency and redirect the combined resources of state and federal programs toward meeting the goal of setting "the national standard of a high-quality workforce by being the employment connecting point for employers, job seekers, and the community."

The Utah model represents a "unified" state approach. It replaced a decentralized system of nine service delivery areas administering job training programs, four regions administering welfare programs, and collapsed five state offices (e.g., departments of Employment Security, Family Support, Job Training, Child Care, and Turning Point, a displaced homemaker program). One-stop career centers are the entry points, providing simplified and uniform access to a comprehensive workforce and human service system. A case manager is assigned to work individually with welfare recipients and can draw on needed resources from job training, job placement and welfare services.

State of Indiana, Department of Workforce Development. Indiana took the opportunity extended by WIA reforms to pick up where it had left off. A decade earlier the Governor and Legislature saw the importance of a skilled workforce in expanded the state's economy. Durable goods manufacturing, the state's predominate industry, was weakening. Enlightened state officials sought to increase educational attainment levels and the skills of incumbent workers in an effort to improve the manufacturing base and attract high-skill industries. Success is evidenced by the fact that the state's manufacturing sector held steady the last fifteen years when the index declined nationally by 14 percent. In other national comparisons Indiana ranks: eleventh in numbers of high-technology jobs, first in the highest share of middle-income jobs, and eighth in growth of high-wage jobs in the 1990s.

The focus of reform for Indiana is to strengthen the connection between workforce development and economic development with a vision to "combine supply-side theory with a new demand-side focus." Training incumbent workers continues to be central to its goal of reforming the workforce development system and a key feature of its regional economic development strategies. As a result, they have added a performance requirement that work-based learning programs be "portable" and provide "industry-recognized skill credentials" that show a return on investment. Programs consolidated into the Department of Workforce Development include: job training, employment services, unemployment insurance, workforce literacy, and vocational and technical programs. Drawing on its success with one-stop centers as delivery systems since 1993, the state is extending its services to more than 30 comprehensive centers throughout the state.

State of Michigan, Department of Career Development. In forming a statewide workforce development system, Michigan is tackling broader issues of reform in education, spanning K-12 through higher education. This design reflects a desire to construct a lifelong system of learning that prepares students and workers for 21st Century jobs. A new Department of Career Development has a staff of 1,100 employees and an annual budget of $592 million to administer state and federal education, training and employment programs. The education programs include: secondary career-technical, postsecondary and adult education. Essentially, a three-tiered delivery system is in place to comprehensively meet the educational, employment and job training needs of adults and youth. It consists of (1) career preparation programs; (2) workforce development programs, that combine job training and welfare reform funds to assist all disadvantaged and jobless persons; and (3) worker enhancement programs that include work-based learning and incumbent worker programs.

Michigan's approach is decentralized. Its mission of "producing a workforce with the required skills to maintain and enhance the state's economy" will be carried out under the Governor's leadership through strong public and private partnerships represented on the state and local workforce development boards (WDB). Separate educational advisory groups, appointed by the WDBs, serve as catalysts to strengthen elementary, secondary and postsecondary systems as well as oversee the implementation of the education portion of the WDB plan. An initiative made possible by WIA is underway. Local councils representing workforce and economic development organizations are strategically planning incumbent worker programs to upgrade the skills of workers within their region. Michigan is also committed to experimenting with web learning as a vehicle for career guidance and recruitment for high-demand IT jobs.

Organizational Models of Change. By the mid-1990s, at least two-thirds of the states had established a state council to coordinate employment and training programs. The councils, referred to as human resource investment councils (HRICs), are usually independent boards with representatives from the public and private sector. Because HRICs are entities of the state, the authority to influence plans and funding decisions varies substantially. A StateLine (January 15, 1997) report on state efforts to restructure or reinvent workforce development systems is available online at www.nga.gov. The following two examples from Texas and Florida describe how HRICs are reforming systems through outcome-based accountability and incentive funding strategies.

Outcome-Based Accountability and Quality Initiatives. A couple models that particularly focus on outcome based accountability requirements are given below.

State of Texas, Council on Workforce and Economic Competitiveness.

Texas is getting a lot of attention from WIA administrators these days. They are interested in seeing how closely the federal WIA performance standards conform to the results being measured by the Texas Council on Workforce and Economic Competitiveness, the State's Human Resource Investment Council (HRIC). The Council was given broad oversight responsibilities for state and federal education, training and service programs that make up its workforce development system. There are three categories of core performance measures that apply to all programs: labor market outcomes, learning outcomes, and customer satisfaction. These measures were developed as part of a statewide strategic planning process that resulted in goal setting and the creation of baseline benchmarks. The results serve the Council's needs in evaluating system and program outcomes. But more than that, it is reviewed by the Governor's Office in decision-making tied to the State's performance-based budgeting system. A separate Quality Systems Development group developed a system of standards for measuring top performers in the delivery of services through the one-stop career centers. Items of interest include: universality, customer choice, systems integration, client outcomes, and management and administration.

State of Florida, Jobs and Education Partnership

Florida reorganized job training, welfare, and education programs in 1996 and incorporated most of the directions and principles promoted by WIA. The Jobs and Educational Partnership (JEP), the state's HRIC, is staffed by a nonprofit, business-inspired economic development agency known as Enterprise Florida. JEP consists of regional workforce development boards (that function as WIBs) in providing oversight on four major components of the workforce development system: one-stop career centers, school-to-work transition, welfare-to-work transition, and high-skill and high-wage jobs.

JEP with Legislative backing is expanding on a novel approach of providing performance-based incentive awards to postsecondary technical and community colleges for rates of student completions and placements especially in high-skill and high-wage jobs. They intend to award resources and incentives to the workforce development boards for performance on standards related to three-tiered categories of: system-wide outcomes (e.g., employment in higher-wage occupations, job retention, reduction in welfare payments, and employer satisfaction); outcomes in each of the following workforce development components of: school-to-work, welfare-to-work, one-stop career centers, and high-skill and high-wage jobs; and performance indicators used by federal or state implementers (e.g., WIA performance standards for job training programs.)

Community Leader Results-Based Decision-Making Guides

A complete guide, *Informed Consent: Advice for State and Local Leaders on Implementing Results-Based Decision-making*, is available from The Finance Project at www.financeproject.org/Informed_consent.htm. Other guides and resources can be found at www.raguide.org/ and from the Fiscal Policy Studies Institute at www.resultsaccoutability.com

What Will Help Us Be Successful?

This report encourages leaders to build a work skills-related learning system that is accessible and useful to all adults in Chester and Lancaster Counties. But improving the delivery of learning services is not a task that communities can accomplish in isolation. State systems of reform must complement local coordination strategies. The stark absence of long and successful histories of interagency collaboration places South Carolina at a real disadvantage in building the components of a lifelong learning system capable of preparing our workforce for 21st Century jobs. Therefore, this report will be disseminated statewide to inform other city and county leaders, state policymakers, and administrators of workforce development programs.

Leaders must initially bring together the pieces of the learning system envisioned. Begin by improving the interfacing of adult education, workforce literacy, job training, academic education, technical/vocational skill development, and workplace learning programs. Learning services need to be better coordinated. Both counties would be well served by appointing a coordinating entity that is responsible for problem-solving obstacles in forming a cohesive workforce development system. Adults with low literacy, out-of-school youth, and working low-income families are entitled to receive the instruction and support they need to reach their education and employment goals.

Ultimately, we should work to realize the goal intended by federal reforms: to build one coherent system comprised of job training, adult education, employment services, welfare reform, and vocational rehabilitation. A coordinated system of lifelong learning will involve all of these providers and more. See the Appendix for a description of Primary Federal Legislation and Delivery Systems. In order to do this, the lessons learned from successful efforts elsewhere suggest that leaders must work together to realign public education and job training systems, and combine resources and expertise across public and private sectors to enhance the quality and outcomes of education and training. They must not stop until learning opportunities are extended to everyone with skill deficiencies and obstacles to successful employment. To summarize what this will entail for job seekers and incumbent workers:

(1) Access to learning opportunities that are affordable and held when and where adults and out-of-school youth are interested in learning.
(2) Information on local and national labor market trends that is universally available and timely to help guide decisions on careers and job pursuits.
(3) Continuous learning pathways exist to assist workers lifelong as they adjust to changing jobs and marketplaces.
(4) Workers, employers and communities work together to resolve obstacles that may block career advancements and access to family-supporting jobs.

Start by Assessing Labor Market Conditions and Workforce Literacy

At the beginning of this guide, we estimated the scope of the literacy problem and skill deficiencies in Lancaster and Chester Counties based on national trends and county data. A better strategy is to begin with a community assessment that defines workforce and marketplace conditions, as they presently exist. Needs assessments are instrumental in uncovering trends and generating ideas that will inform aspects of how to design work-based skills programs. By involving a broadly representative group of leaders, practitioners and others interested in literacy, ideas and views will be expressed that will naturally evolve into discussions of the workforce issues found to be crucial in the area.

A Workforce Literacy assessment may include -

- A description of labor market conditions and the unmet needs of employers in finding skilled workers or upgrading the skills of the existing workforce. Ideally, funders may pay for a job skills analysis of all small- and mid-sized firms in the two counties to inform planning decisions on workforce needs and instructional offerings.
- A review of classroom curricula and performance (e.g., achievement scores, standardized tests of student knowledge and skills) to identify proficiencies gained and those yet to be realized by a majority of students.
- Identify known and anticipated changes by firms that intend to downsize, restructure, or add jobs and job duties (perhaps due to technology).
- Describe all of the community's assets in education and training. We discovered a number of nontraditional providers and resources in *A Literacy Check-Up for Lancaster County and Fort Lawn and Great Falls of Chester County*, such as church-sponsored ESL classes.
- Survey workers, job seekers, and providers on the host of problems experienced in finding, performing and retaining good jobs.
- Estimate the size and nature of the skills gap for the community, now and in the near future.

This process should also explore the community's climate for change. Determine how receptive community leaders and providers are in jointly problem-solving on issues of workforce literacy. Question how feasible and willing agencies are to consolidate their resources in order to target specific literacy and skill training needs.

An important source of information and support is the regional Workforce Investment Board (WIB). In the initial stages of preparing the WIA five-year plan, the WIBs were encouraged to conduct needs assessments, referred to as Community Audits. Those that did are realizing the advantages of having baseline data to describe and justify the early results of the one-stop career centers. In August 2000, Workforce Learning Strategies published a guide, sponsored by the U.S. Department of Labor, which gives a detailed account of how to assess workforce development needs and includes a valuable list of resources. See http://www.doleta.gov/backgroundinformation.html.

Dialogue on the Tough Issues and Work-Related Learning Challenges

Local communities are being asked to create systems of workforce development rather than programs, to leverage public sources of education and training with private, and to equip workers and job seekers with new literacy skills required of high performance firms and high-tech jobs. If this seems like a daunting responsibility, it is! But, entire departments, several states or regions within, and many communities have done it. The complexity of implementing systems reform at a community level requires strong leadership and the collaboration of many providers. It may be the first time for business and industry leaders to accept a role in shaping a vision for literacy and skill development. Reaching consensus on an area of workforce concern, coalesces everyone's thinking, ensures buy-in and invites key individuals to consider ways to partner from positions of shared and enthused commitment. Alliances between public and private actors will help frame every element of the system and then pool the necessary resources and expertise to effectively carry it out.

Where linkages exist between educational providers and corporate partners, the direction for communities is clearly to build on these connections. Effective models of collaboration attribute their success to enduring partnerships, formed over time and solidified by proven results. Expanding on such networks will assuredly improve the coordination of educational services.

Communities without a history of collaboration begin by making connections where none exist. The most vital ingredient in forming networks for continuous learning is to encourage the development of coalitions and public/private partnerships. One or several entities may be appointed to convene like-minded

groups and lead discussions on issues crucial to workforce literacy. Dialogues between educators, workers and employers help communities decide on needed connections and reforms, and then arrive at solutions to narrow the skills gap. Because workers and employers are the primary recipients of literacy services, their involvement from the earliest stages of planning is imperative. However, their views and expectations are not likely to be the same. Employers with preconceptions that high schools are turning out graduates with inadequate skills to do most jobs may be hard pressed to partner with public schools. Effective school leaders anticipate debates on the credibility of the current educational system and are willing to address issues related to its quality, relevance and responsiveness. This exploration of ideas and views are fundamental in efforts to reach shared goals with identifiable workforce objectives. Ultimately through such dialogues, communities identify what's in place and what's missing to accomplish sustainable outcomes for employers and workers in terms of expanded markets, increased skills, enhanced learning opportunities, and improved economic and job prospects.

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Strategies for coalition and partnership building -

- **Discuss what coordination is currently happening and suggest improvements.** Select a convening entity and invite all federal, state and county administrators responsible for various aspects of workforce training to address what they are doing relative to the needs of Lancaster and Chester Counties.
- **Challenge educational institutions to coordinate workplace literacy and training efforts.** Local school districts should be encouraged to publicly communicate what they are doing to leverage and coordinate efforts and provide small and midsize firms with the training opportunities needed.
- **Investigate the feasibility of a sectoral training approach.** The Chamber of Commerce may consider convening small and midsize firms to determine what their training needs are and explore possible joint ventures.
- **Identify and involve all potential education and training providers.** Convene a meeting of nonprofit organizations currently providing services and businesses to determine how they might work together in developing the area's workforce.

- **Coordinate the provision of services to overcome barriers known to limit participation.** Convene a series of meetings with transportation and other service providers, business leaders, and literacy training entities to determine how transportation and other support needs of employees can be accommodated, thus enabling persons to take advantage of training opportunities.
- **Collaborate with groups formed to problem-solve literacy issues.** Carefully incorporate and, if warranted, strengthen efforts by community and neighborhood groups to attend to a serious literacy issue. For example, much attention has been given to the extraordinarily high dropout rate in Lancaster County. Rather than replacing existing taskforce plans, intensify efforts to participate and support initiatives that are successfully underway.

Prepare a Local Action Agenda for Literacy

Empower community leaders to make their own decisions on how the system needs to be configured to achieve the best results. Most federal and state efforts to reform systems have concentrated on improving program outcomes by changing administrative structures and occasionally rewarding innovation with incentive funds. Little attention has been given to the mechanics of how services are delivered, who avails themselves of these services, and to what extent community workforce issues are being resolved.

A suggested approach in making decisions on matters of workforce literacy is to analyze the current situation in much the same way as a business investment. Collectively assess whether the community, county or state is getting the best return on the investments being made (e.g., dollars currently spent, number of employees assigned, etc.). Consider the scope of the problem and the total dollars available for spending on education and skill training. Explore answers to questions such as:

- How are the dollars being allocated and for what purposes?
- Are all three challenge areas (e.g., education credential, new literacy, and language) being addressed in amounts equivalent to the needs as estimated, or are resources being concentrated in one or two areas to the exclusion of other priority concerns?
- To what extent are needs being met, what proportion of persons are being served and how effectively?

Then look at the outcomes, not only in terms of program results but also review the history of success or failure to determine possible "causes and effects." Certain factors may be hindering all programs from realizing higher literacy goals with their participants, such as inadequate supports for transportation or child care, and release time from work to attend classes. There may be circumstances inherent to certain programs that are problematic. There may be limited numbers of volunteers, practices that are obsolete, and difficulties with sporadic funding.

Within this context, make comparisons and conclusions about the quality and effectiveness of educational services.

- How can available funds for literacy and skill development be better utilized?
- Are there clear and obvious choices to improve and/or expand existing programs found to be effective?
- Would monies be better spent in support of new challenges and proven practices?
- What gaps must be filled to satisfy the vision of a lifelong learning system?

There is a tendency to avoid the comprehensive inspection that this line of questioning evokes. System change will not occur until communities are willing to consciously assess results across program, agency and funding jurisdictions. Undoubtedly, the magnitude of a single literacy challenge far exceeds the resources each county now has to commit. The 2001 Literacy Check-Up concluded from the survey of providers in the two counties that less than 1 percent of the 46,969 adults at the lowest two levels of literacy are being reached. Furthermore, the estimated per person cost is undisputedly low at an average rate of less than $500.[55] The discovery of new and more effective approaches to literacy dictate that practitioners and leaders do the hard work of sorting out every asset and resource that can be brought into the literacy arena. Although policies and long-held customs may prevent their immediate access, it is important to understand all the pieces that need to be blended together to accomplish the overall goal of raising literacy levels to 21st Century standards. The product of this joint planning and decision-making is an Action Agenda with goals similar to the National Literacy Summit, but adapted locally with community-defined goals, priorities and activities. This is not a static document. It is simply a beginning blueprint that sets the foundation and identifies the building blocks for a system to be constructed overtime.

Innovate on Ways to Create Multiple Learning Pathways

There are many experts whose knowledge can be tapped to design new approaches in learning and delivering literacy services. Adult educators and literacy providers are well trained in ways to assist adults who fall into the one or both categories of experiencing language and education credential difficulties. Engaging their time and interest in reviewing the latest research and effective literacy practices may help improve current services and prepare them for the innovations being proposed. The models described in this booklet provide a good place to start.

But research is lacking on topics of how to effectively address the new literacy challenge, progressively and rapidly build the skills of adults at literacy level 1, or graduate students from high school with adequate job skills and the know-how to upgrade these skills to satisfy ever changing workplace demands. In these areas, communities will need to innovate: test out ideas, closely monitor outcomes to identify the features worth adopting, and experiment with a variety of providers and delivery methods.

To accommodate multiple learning styles and preferences, a combination of meaningful pathways will need to be introduced. Nontraditional students, out-of-school youth, new mothers, single working parents are excellent candidates for innovative pathways. They represent groups numbering among the highest in literacy deficiencies and their absence in literacy programs suggests the need for additional support and alternatives measures. Seek out their views on what it will take to move them successfully to the completion of their literacy goals. How informed are they on the skills required of most employers? What additional support and incentives will safeguard their continued involvement?

This short list of possible components and opportunities by challenge areas may assist with plans for innovations.

Educational Credential Challenge

- Pathways for out-of-school youth should extend beyond a high school degree to include career opportunities and college. Consolidate best methods locally and consider referring youth to successful programs outside of the area. For example, current programs may be augmented by internships, mentoring and shadowing experiences. Don't exhaust limited resources to develop a single pathway when it may be possible to leverage local assets to take advantage of effective programs elsewhere. Explore options for referrals to YouthBuild, Job Corps, and Youth Opportunity programs.
- Employ all proven methods for effective youth development. See Table 5 below. Create networks of support that include the youth themselves as mentors and leaders.
- Challenge youth programs to consider partnering with each other and with schools, technical colleges, private construction firms, and building tradesmen to initiate work-based learning initiatives.

Language Challenge

- Enhance offerings by faith-based organizations, schools, and voluntary groups to combine the development of language and literacy skills for immigrants and other non-English speaking residents.
- Target business leaders who employ sufficient numbers of Hispanics to encourage their participation in worksite education programs in English for speakers of other languages (ESOL).
- Explore instructional software and automated resources in support of ESOL training.

New Literacy Challenge

- Create a variety of workplace education and literacy offerings using a sectoral employment approach.
- Invite the Laurens County Lifelong Learning Center staff and leaders of the

B Best model to address selected adult education leaders and consider replication of similar initiatives in both counties.

- Invite leaders from Georgetown Steel and/or Bosch Corporations to Chester and Lancaster Counties to share their workplace education practices with local business leaders and the Chamber of Commerce.
- Invite sponsors and leaders involved in the United Way of Midlands Literacy Initiative to meet with selected business, industry, education and public agencies leaders to consider replicating what was done in the Midlands in Lancaster and Chester Counties.
- Consider establishing a Community Development Corporation (CDC) or inviting an existing CDC (such as CET) to expand into the area that has a primary focus, at least in part, to develop workforce skills. Use the models described as a beginning base to explore possibilities.

Improve Methods of Learning and Service Delivery

- Consider taking selected business leaders on bus tours of some of South Carolina's model programs described under the workforce literacy initiatives section.
- Expand options for one-stop career centers in strategic locations within Chester and Lancaster Counties. Review the model programs section for what these centers are about.
- Explore the use of public TV services and other existing Internet providers to create partnerships with higher education to develop a strong e-learning system. Appoint a business advisory committee to ensure that whatever is designed meets the needs of employers as well as employees.
- The statewide examples of system reforms and consolidations could be discussed with state leaders with Lancaster and Chester Counties offered as a possible pilot site.

Table 4. **Workplace Literacy Best Practice Guidelines[56]**

The most effective workplace literacy programs use the workplace as the context for instruction and take account of workers' skills, knowledge, and interests in the training design and delivery. This "functional context" approach has benefits for both companies and employees, in that, the approach:

- Increases participants' motivation to learn, because they can see the value and applicability of the training;
- Increases participants' ability to learn, because the concepts being taught are less abstract; and,
- Increases the training returns to the company, because it is easier for employees to transfer learning back to their jobs.

The National Workforce Assistance Collaborative identified the following seven characteristics as common elements among the nation's top workplace literacy programs. For additional clarifying information on each see http://www.ed.psu.edu/nwac/document/literacy/best.html.

1. Training objectives are tied to company business objectives, and reflect company, employee, and customer needs.
2. Workplace literacy training curricula, structure, and delivery methods reflect the workplace and its requirements.
3. Workplace literacy training is tailored to trainee needs.
4. Assessment is customized to workplace requirements.
5. Program delivery is flexible and encourages and facilitates employee participation.
6. Staff involved in the development and delivery of programs are highly skilled and well trained.
7. Evaluation is used to assure training quality.

Apply Principles of Effective Workplace Literacy and Youth Development Programs

Collaborative efforts by nationally renowned practitioners and researchers have resulted in several online assistance websites that list effective programs and best practices. The following two tables describe principles and features found common to effective workplace literacy and youth development programs. They are to be followed in the design and implementation of program enhancements or the creation of entirely new literacy and skill development initiatives.

Table 5. **Principles for Effective Youth Development & Literacy Programs**

Five Categories of Criteria for Effective Practices	
Purpose and Activities	Effective initiatives have clear and well-understood aims and a coherent, well-organized set of components and activities to attain them. Mission: The initiative presents a clear and consistent mission. Target Youth: There is a logical relationship between the initiative's mission, activities and the youth it serves. Activities: The initiative's mission shapes its structure and offerings.
Organization and Management	Effective initiatives are well managed, work in collaboration with others and are committed to continuous improvement. Leadership: The initiative maintains a strong, engaged, continuous and competent leadership. Staff Development: The initiative incorporates staff development as a management strategy. Collaboration: The initiative leverages resources through collaboration. Continuous Improvement: The initiative is committed to a continuous improvement strategy. Funding: The initiative attracts stable and diverse funding.
Youth Development	Effective initiatives consciously rely on youth development principles to identify activities and shape the program environment, structure and operations. Youth/Adult Relationships: The initiative nurtures sustained relationships between youth and caring, knowledgeable adults. Building Youths' Responsibility and Leadership: The initiative engages youth in their development and sets high expectations for them. Individual Focus and Age/Stage Appropriate Outlook: The initiative tailors the program experience for each youth and also provides age and/or stage appropriate services for its participants. Family and Peer Support: The initiative encourages positive relationships with family and peers. Supportive Services and Opportunities: The initiative provides youth with supportive services and opportunities beyond education and training. Building Sense of Self and of Group: The initiative helps youth develop a sense of group membership while fostering a sense of identity and self.

Workforce Development	Effective initiatives emphasize the development of skills, knowledge and competencies that lead to careers and self-sufficiency and stress the connection between learning and work. Career Awareness, Planning and Readiness: The initiative nurtures career awareness and embeds career planning and readiness throughout the program. Employer Engagement: The initiative ensures that employers are actively engaged in the initiative. Work and Learning Connection: The initiative relates academic learning to real-life work issues and situations and stresses active learning. Competencies Emphasis: The initiative documents and communicates competencies gained by young people. Extended Follow-up: The initiative provides extended services and support.
Evidence of Success	Effective initiatives collect appropriate and credible data that enable them to document their operational effectiveness and their ability to achieve desired outcome. Descriptive Data: The initiative collects information on its current operations, services and participants. Outcome Data: The initiative establishes objectives that reflect its goals and collects solid information about the results of its activities. Comparative Measures: The initiative seeks sources of comparative information and data.

The National Youth Employment Coalition offers a sophisticated website referred to as Promising and Effective Practices Network (PEPNet). The Coalition researches common elements of effective youth programs to identify criteria for use in selecting quality programs for annual awards and inclusion in its database of model programs. Programs are highlighted along with additional instructions for each of the following five categories. Table 5 is reprinted from the PEPNet website. For a copy of the workbook on PEPNet criteria and specific model explanations, go to www.nyec.org/PEPNetCriteria.htm.

The U.S. Department of Labor has also identified ten critical elements of effective youth programs in its attempt to reform earlier formula-driven programs. Every workforce investment board (WIB) must establish separate youth councils to design, implement and assess a comprehensive array of employment and career development assistance for youth. The following guidelines were issued to assist in planning youth employment initiatives funded under the Workforce Investment Act.

Table 6. **Ten Essential Elements Of Effective Youth Employment Programs**[57]

1. Tutoring and study skills training
2. Alternative secondary school services
3. Summer employment opportunities linked to academic and occupational learning
4. Paid and unpaid work experiences
5. Occupational skill training
6. Leadership development
7. Supportive services
8. Adult mentoring
9. Comprehensive guidance and counseling
10. Long-term follow-up

Measure the Success of Workforce Literacy Initiatives

Two processes of evaluation are required for communities to monitor the success of its workforce literacy initiatives: 1) to measure the quality and effectiveness of individual programs and, 2) to follow the progress and track the outcomes of the workforce development system.

Standard evaluation methods can be used in reviewing program outcomes. This assumes that in the program's design, outcomes are clearly articulated that relate to the literacy strategies being proposed. The target group to be served should also be identified with evidence that the instructional methods selected are appropriate for this population and expected level of literacy. Once the audience is specified, and outcomes and strategies are determined, then the needed information is available to guide the evaluation design. A highly recommended approach to evaluating training programs was developed by Donald L. Kirkpatrick.[58] It comprehensively surveys respondents and stakeholders by means of a four-level model that exceeds most instruments which tend to measure reactions rather than training quality, mastery of content, and transference to the shop floor.

Table 7. **Possible Outcomes of Workforce Literacy Initiatives**[59]

Workforce Development System Goals	
Employment	Maximize employment and re-employment in first, new, and better jobs.
Self-Sufficiency	Increase the number of individuals achieving self-sufficiency by assisting them to obtain and retain stable employment and a living wage.
Knowledge/Skill Attainment	Assist individuals in gaining the academic, basic skills, workplace and occupational knowledge and skills required for educational advancement or continuing success in meeting the changing demands of the workplace.
Enhance Link Between Labor Supply and Employer Demand	Ensure that employers, educators and individuals will have labor market information and services that support business growth, partial wage replacement to workers between jobs, and a labor exchange that provides the workforce needed to respond to employer requirements.
Customer Satisfaction	Ensure that employers and workforce development participants are highly valued and are highly satisfied with workforce development services.
Cost Effectiveness	Ensure that the workforce development system maximizes the use of available resources in a cost-effective and efficient manner, and maximizes return on investment.
Workplace	Provide employers effective support in the development of high performance work organizations that maximize the potential and skills of a diverse workplace.
One-Stop (Universality, Customer Choice, Integration and Outcomes-Oriented)	Implement an integrated, results-oriented workforce development system that is: based on the needs of customers; ensures individuals equity of access to information, services and lifelong learning opportunities; and continuously improves the capability of the system and its employees to deliver high-quality services to customers.

Describing the results of system change is a more subjective and difficult feat. It is best to use formative evaluation methods that focus on measures of continuous improvement. Interpretations of these process outcomes need to come from a representative group of stakeholders, including workers, employers, job seekers, trainees, and any significant group that programs target. A standing advisory committee or taskforce is a commonly preferred mechanism for tracking the status of change efforts and noting substantial effects, intended or unintended.

Conclusion

Solutions to problems of this magnitude must be community-wide. It will take innovative leadership and effective partnerships involving public and private employers, workers, governments, schools, practitioners of education and training, employment agencies, social service organizations, churches, and community groups. Success will not come with a single intervention. It will take many approaches and providers to experiment with ways to help workers continually improve their skills and apply new competencies for the benefit of the workplace, their families, and the community.

Federal reforms are giving state and local leaders a first-time opportunity to make real progress toward the national vision of an integrated system of lifelong learning. Educational institutions are willing partners in these endeavors even though their roles remain undefined. There will be obstacles to overcome. Schools, colleges, and universities know the importance of moving beyond traditional, inflexible approaches and many have, as seen by the community college and adult education model programs. To accommodate nontraditional students, particularly workers on the job, will entail innovations in learning and the application of skills in settings that may look nothing like a classroom. Communities will need to clarify what direction they intend to take and the *paths* they believe will forever close the gap in workforce literacy.

What Workforce Literacy Resources are Available?

Many resources are identified throughout this report. Some additional key resources are cited below. For those reading the web version of this report, the blue underlined text is linked to the web site for convenience. By going to these web sites as entire resource collection on workplace and workforce literacy is available to you. This listing is selective, by accessing these sites, other resource agencies can be identified and their resources accessed.

National Agencies and Resources

The key national organizations that promote literacy development in general and also provide assistance related to workplace and workforce literacy are reviewed below.

American Society for Training and Development
1640 King Street
P.O. Box 1443
Alexandria, Virginia 22313
Tel: (703) 683-8100
http://www.astd.org

ASTD is a professional association and leading resource on workplace learning and performance issues. They provide information, research, analysis and practice information derived from its own research, the knowledge and experience of its members, its conferences, expositions, seminars, publications, the coalitions and partnerships it has built through research and policy work.

National Institute for Literacy
800 Connecticut Avenue, N.W.
Washington, DC 20202-7560
Phone: (202) 632-1500
http://www.nifl.gov/

NIFL was created as a result of the National Literacy Act. It is the national hub through which the literacy system in the United States is to be built. NIFL is the primary source to turn to for finding out about literacy organizations and initiatives at the state and national level. NIFL's web site includes an online directory of literacy resources across the nation. A complete description of the regional resource center system is also there. These regional centers are called LINCS (Literacy Information and Communication System). Use the ***LINCS*** connections to access region- and state-specific resources. NIFL's Eastern LINCS web site is home to a special collection of literacy information.

The Midwest LINCS
Kent State University
Access site through the NIFL web site
http://www.nifl.gov/

The Midwest LINCS has a helpful guide to establish program quality indicators (called the Indicators of Program Quality Resource Guide). While it is

written to address program quality indicators for literacy programs in general, it will be useful to those groups wishing to create a workforce literacy program. With slight modifications, it will help form a good basis for a rigorous program evaluation.

U.S. Department of Education
Office of Vocational and Adult Education (OVAE)
Division of Adult Education and Literacy
400 Maryland Avenue, SW
Washington, DC 20202-7240
Tel : (202) 205-5451
http://www.ed.gov/offices/OVAE/AdultEd/

The Division of Adult Education and Literacy, in the Office of Vocational and Adult Education (OVAE), administers the Adult Education and Family Literacy Act, Title II of the Workforce Investment Act of 1998 (Public Law 105-220). The Adult Education and Family Literacy Act is the Department's major program that supports and promotes services to adults who are educationally disadvantaged. The Division maintains cooperative and consultative relations with Federal, State, and local agencies that provide basic skills services. It maintains a Clearinghouse that offers national information resources on issues and trends in adult education and literacy, publishes a newsletter, the *A.L.L. Points Bulletin*, and reports on promising practices in adult education. It has fact sheets and online resources related to health literacy. Consulting these fact sheets will allow the reader to easily access most of the resources available online. Their web site contains links to most of the major web sites connected with literacy education. Readers are encouraged to start there to quickly link to all major sites. (Click on Related Links.)

U.S. Department of Labor
Employment and Training Administration
200 Constitutional Avenue, NW
Washington, DC 20210
Tel: (202) 219-7831
http://www.doleta.gov

USDOL supports America's Workforce Network, an online assistance and support network that's committed to serve the needs of workers and their employers. It provides detailed instructions to employers on resources available to support the recruitment of qualified job candidates, subsidize risks associated with hiring disadvantaged workers, and advise on how to restructure firms thereby avoiding layoffs. A complementary toll-free hotline (877-US-2JOBS) serves as a help line with information on employment and training programs nationally. Additional

grants and supports are funded to intermediary organizations and coalitions. DOLETA also houses: O*Net - The Occupational Information Network, an electronic database which will eventually include adult learner assessments; and SCANS (Secretary's Commission on Achieving Necessary Skills).

21ST Century Workforce Commission
1201 New York Avenue, NW
Washington, D.C. 20005
Tel: (202) 693-5082
http://www.workforce21.org

The 21st Century Workforce Commission is an independent commission, appointed by the President and Congress, to examine and report on what knowledge and skills individuals must possess, and what educational and workforce development opportunities must be available to allow the greatest number of Americans to successfully participate in a 21st Century Information and Technology (IT) Workforce.

Business Coalition for Workforce Development
National Alliance of Business
1201 New York Avenue NW, Suite 700
Washington, DC 20005
Tel: 202-289-2934
http://www.nab.com

Business Coalition for Workforce Development (BCWD) is a group of more than 35 business organizations nationwide that has been proactively involved in workforce development issues and policies for the past nine years. It helped shape and advocated for the passage of the Workforce Investment Act. Through funding from the U.S. Department of Labor, the Coalition focuses on informing, guiding and encouraging business leadership to help alien systems of education and training that are market driven and results oriented. See http://www.workforceinfo.net.

U.S. Chamber of Commerce/Center for Workforce Preparation
1615 H Street, NW
Washington, DC 20062-2000
Tel: (202) 463-5525
http://uschamber.com

The Chamber's Center for Workforce Preparation is the largest business federation in the world. It provides educational information and local community-based resources to businesses of all sizes and industries seeking solutions to worker shortages and training challenges.

Research, Evaluation and Model Programs

Workforce Excellence Network

This is a collaborate effort of the nation's leading organizations in workforce research, policy-making and practice. It serves as a portal to inform and engage state and local workforce development providers in "pursuing performance excellence." Links to the partners listed below are available online and every other quality resource listed in this section. See www.workforce-excellence.net/html.

American Association of Community Colleges. [http://www.aacc.nche.edu/about/about.htm]

John J. Heldrich Center for Workforce Development. [http://heldrich.rutgers.edu] The Center is the home of the National Leadership Institute for Workforce Excellence. [http://www.wibleadership.com]

National Governors' Association/Center for Best Practices. [http://nga.org/CBP/Activities/WorkforceDev.asp]

National Center on Education and the Economy
Washington, D.C.
Tel: (716) 758-0861 or Toll Free (888) 361-6233
http://www.ncee.org

NCEE is a nonprofit organization that believes it is possible for almost everyone to learn far more and develop far higher skills than thought possible. The hallmark of the Center's work is standards-based reform. It helps states and localities build the capacity to design and implement their own education and training systems, suited to their history, culture and unique needs.

National Institute of Standards and Technology (NIST)
100 Bureau Drive, Stop 3460,
Gaithersburg, MD 20899-3460.
Tel: (301) 975-2036
http://www.nist.org/

NIST is a non-regulatory agency within the U.S. Commerce Department's Technology Administration. It conducts research to advance the nation's technology infrastructure in support of U.S. business and industry and promotes performance excellence through the Baldrige National Quality Program that recognizes quality achievement among U.S. manufacturers, service companies, educational institutions, and health care providers. Other programs of technical assistance include the Manufacturing Extension Partnership, a network of local centers that assist small manufacturers, and the Advanced Technology Program,

which accelerates the development of innovative technologies by co-funding R&D partnerships with the private sector.

National Youth Employment Coalition (NYEC)
1836 Jefferson Place, NW
Washington, DC 20036
Tel : (202) 659-1064
http://www.nyec.org/

NYEC is a national organization consisting of practitioners, researchers and policymakers that are dedicated to promoting policies and initiatives that help youth succeed in becoming lifelong learners, productive workers and self-sufficient citizens. It has established national process and outcome criteria for use in evaluating all job training programs directed at youth. More online information is available at the Promising and Effective Practices Network (PEPNet). See http://www.nyec.org/PEPNetCriteria.htm

Other Resource Agencies

Institute for the Study of Adult Literacy
Penn State University
102 Rackley Building
University Park, PA 16802-3202
Tel: (814) 863-3777
http://www.ed.psu.edu/isal/

The Institute for the Study of Adult Literacy has a number of ongoing, collaborative, research and curriculum development projects. It administers the Pennsylvania Workforce Improvement Network (PA WIN) to help adult education providers develop a centralized, market-driven system of services for employers and incumbent workers. See the powerpoint description of PA WIN benefits to employers. The web site introduces the Work-Based Foundation Skills Framework with resources uniquely directed to the educator/trainer, employer, and worker.

Jobs for the Future
88 Board Street, 8th Floor
Boston, MA 02110
Tel: (617) 728-4446
http://www.jff.org

This nonprofit organization partners with leaders in education, business, government, and communities to: strengthen opportunities for youth to succeed in postsecondary learning and high-skill careers; increase opportunities for low-income individuals to move into family-supporting careers; and meet the growing economic demand for knowledgeable and skilled workers.

Laubach Literacy Action (LLA)
1320 Jamesville Avenue
Box 131
Syracuse, New York 13210-0131
Tel: (315) 442-9121
http://www.laubach.org/home.html
For information only: 1-800-Laubach

LLA is a leading nonprofit organization established in 1955 to train volunteer tutors to help adults and older youth improve their lives and communities by learning to read, write, do math and learn problem-solving skills. It is international, serving more than 36 countries. They have a very extensive publishing house, called Grass Roots Press, with materials very useful to those involved in all aspects of literacy training—health, family, workforce, and citizenship. The web site for the press is http://www.literacyservices.com/EandW.htm.

National Assessment for Adult Literacy
National Center for Educational Statistics
Washington, DC
http://nces.ed.gov/nall/defining.defining.asp

This site will give you the facts related to which states participated in the 1992 national literacy survey. S.C. was not one of them. Each state had to pay for its involvement and S.C. did not do so. The site contains definitions of each kind of literacy skills tested and definitions of the levels for each of the three areas tested (prose, document, and quantitative literacy levels). It provides samples of test items. This site will be useful to those who need to educate boards, staff and community leaders about literacy issues and skills. It will help make sense out of what it means to have 60% and 68% of the adult populations in Lancaster and Chester Counties respectively at a level one and two literacy proficiency.

National Center for the Study of Adult Learning and Literacy (NCSALL)
Harvard University Graduate School of Education
Nichols House, Appian Way
Cambridge, MA 02138

Phone: (617) 495-4843
http://ncsall.gse.harvard.edu/ncsalldes.html

The National Center for the Study of Adult Learning and Literacy (NCSALL, pronounced nick-saul) is a collaborative effort between the Harvard University Graduate School of Education and World Education. The Center for Literacy Studies at The University of Tennessee, Rutgers University, and Portland State University are NCSALL's partners. One more partner in the Midwest will be added in the future. The goal of NCSALL is to help the field of adult basic education define a comprehensive research agenda; to pursue basic and applied research under that agenda; to build partnerships between researchers and practitioners; and to disseminate research and best practices to practitioners, scholars, and policy makers. NCSALL is funded by the U.S. Department of Education through its Office of Educational Research and Improvement (OERI) and OERI's National Institute for Postsecondary Education, Libraries, and Lifelong Learning (PLLI).

National Institute on Disability & Rehabilitation Research http://www.ed.gov/offices/OSERS/NIDRR/

NIDRR, an agency of the Department of Education, conducts comprehensive, coordinated programs of research and related activities to maximize the full inclusion, social integration, employment, and independent living of disabled individuals. Visitors to the site will find federal funding and grant opportunity announcements, information about special events, and announcements regarding disability research on a wide variety of topics.

Public/Private Ventures
The Chanin Building
122 East 42nd Street, 41st Floor
New York, NY 10168
Tel: (212) 822-2400
http://www.ppv.org

A national nonprofit organization whose mission is to improve the effectiveness of social policies, programs, and community initiatives, especially as they affect youth and young adults. It is at the forefront in assessing effective models and best practices. See website for list of publications including: "Surviving, and maybe Thriving, on Vouchers: A guide for Organizations making the transition to Individual Training Accounts under the Workforce Investment Act" by Sheila Maguire.

Organizational Resources

AFL-CIO (http://www.aflcio.org/home.htm) helped to found the Working for America Institute (http://www.workingforamerica.org) to explore labor-led strategies for building skills and raising living standards.

American Institution on Education and the Economy (IEE at the Teachers College, Columbia University) (http://www.tc.Columbia.edu/iee/)

Aspen Institute's Initiative for Social Innovation through Business (ISIB) (http://www.aspeninstitute.org)

Institute for Policy Studies at The John Hopkins University. (http://www.jhu.edu/~ips/)

John J. Heldrich Center for Workforce Development at Rutgers University (http://heldrich.Rutgers.edu/) and the National Workforce Development Research Symposium (http://www.heldrich.Rutgers.edu/USDOL-ETA-ResearchPlan/symposium.html)

National Clearinghouse for Bilingual Education (http://www.ncbe.gwu.edu/)

National Institute of Standards and Technology: National Quality Program. (http://www.nist.gov)

National Skills Standards Board (NSSB). (http://www.nssb.org/)

Sar Levitan Center for Social Policy Studies http://www.levitan.org)

The Conference Board. (http://www.conference-board.org)

The Urban Institute (http://www.urban.org)

W. E. Upjohn Institute for Employment Research (http://www.upjounginst.org)

Youth Development Organizations

American Youth Policy Forum (AYPF)
1836 Jefferson Place, NW
Washington, D.C. 20036
Tel: (202) 775-9731
http://aypf@aypf.org

American Youth Policy Forum is a nonpartisan professional development organization that hosts policy forums and field trips for policymakers working on education and youth issues at the local, state and national levels. It produces easy-to-read publications, some available on-line, on a variety of issues that impact youth. See "More Things that DO Make a Difference for Youth: A Compendium of Evaluations for Youth Programs and Practices, Vol. II."

DeWitt Wallace Reader's Digest Fund
Two Park Avenue, 23rd Floor
New York, NY 10016
Tel: (212) 251-9700
http://wallacefunds.org

The Wallace-Reader's Digest Funds are committed over the next few years to develop educational leaders to improve student learning; provide quality informal learning for children and families, and promote new practice standards to increase participation in the arts.

Youth Development and Research Fund (YDRF)
19110 Montgomery Village Ave, Ste 350
Gaithersburg, MD 20886
Tel: (301) 216-2050
http://www.teamyouth.com

YDRF improves programs, policies and opportunities for youth through research, training and culture. Its particular focus is to help youth serving organizations to improve capacity through the identification, dissemination and sharing of "effective practices."

National Information Center for Children and Youth with Disabilities. (http://www.nichcy.org/)

A national information and referral center that provides information on disabilities and disability-related issues to families, educators, and other professionals. NICHCY focuses on children and youth (from birth to age 22) and provides resources on specific disabilities, early intervention, special education and related services, individualized education programs, family issues, disability organizations, professional associations, education rights, and the transition to adult life. Also available in a Spanish-language version.

South Carolina Resource Agencies

South Carolina Chamber of Commerce
1201 Main Street, Suite 1810
Columbia, SC 29201
Tel: (803) 799-4601 or (800) 799-4601
http://www.scchamber.net

The SC Chamber of Commerce is the state's most prestigious and largest broad-based business trade association. It is a nonprofit, nonpartisan statewide organization that represents business, industries, professions and associations of all sizes and types. The Chamber is a source of information on all aspects of business and industry including projects on future workplace trends and needs.

The South Carolina Literacy Resource Center
1722 Main Street, Suite 104
Columbia, SC 29201
Tel: (202) 929-2563 or Toll Free (800) 277-READ
http://SCLRC@aol.com

The South Carolina Literacy Resource Center is managed by the SC Dept. of Education, Office of Adult and Vocational Education. Each state is required under the National Literacy Act to have such a center.

South Carolina Rural Economic Development Council
Rural Crossroads Institute
P.O. Box 927
Columbia, SC 29202
Tel: (803) 737-2124

Formed in 1990, as a pilot site for the President's Initiative on Rural Economic Development, SCRDC's mission is to improve the employment opportunities, income and well-being of South Carolina's rural people by strengthening the capacity of rural South Carolina to complete in a global economy. Its Crossroads Project is piloting a worker assessment initiative, using Work Keys, to identify worker competencies. Workers with low literacy are being encouraged to upgrade their job skills while those with strong work-related competencies will be touted as a ready supply of skilled job seekers for use in attracting businesses looking to expand or relocate to more promising markets.

South Carolina Workplace Resource Center
400-A Church Street
Laurens, SC 29360

Tel: (864) 984-1928
http://sclrc.org/wpresctr.htm

The SC Workplace Resource Center (WRC) was established in 1998 to assist adult educators statewide in methods of delivering quality workplace programs for business and industry. WRC is a program of the SC Dept. of Education and is funded through the Office of Adult and Community Education.

The South Carolina Department of Education (http://www.state.sc.us/sde)

The South Carolina Employment Security Commission (http://www.scois.org)

State Board for Technical and Comprehensive Education (http://www.scteched.tec.sc.us)

Websites and Related Publications

Business Coalition for Workforce Development. *Rise to the Challenge: A business guide to creating a workforce investment system that makes sense* at http://www.nab.com.

Jobs for the Future. *Work-Related Learning Guide for Family Literacy and Adult Education Organizations* at http://www.jff.org.

National Youth Employment Coalition. *PEPNet Effective Practices Criteria Workbook* is on-line at
http://www.nyec.org/pepnet/Workbook/workbook01.pdf. It includes the PEPNet Self-Assessment Tool, and the PEPNet 2001 Award Application.

National Leadership Institute for Workforce Excellence. A 6-volume resource for state and local boards can be purchased on-line at http://www.wibleadership.com. It offers a number of resources to assist in moving from a narrow focus on certain publicly funded programs to becoming a convener and catalyst of strategic community-wide thinking and action regarding critical workforce issues.

Public Education Network. *Communities at Work: A Guidebook for Strategic Interventions for Community Change*, assists communities in reforming public education and includes descriptions of innovations in technologies found to be effective with educationally at-risk students. Available online for downloading at http://www.publiceducation.org/download/CAW.pdf.

Public/Private Ventures. Its website lists P/PV publications with links to other leading-edge workforce development and sectoral employment policy and practice reports at http://www.ppv.org/indexfiles/wvindex.html. Several key reports to review are: 1) "Gearing Up: An Interim Report on the Sectoral Employment Initiative" by Mark Elliott, Anne Roder, Elisabeth King and Joseph Stillman; 2) "Labor Market Leverage: Sectoral Employment Field Report" (1999) by Mark Elliott and Elisabeth King; and 3) "States of Change: Policies and Programs to Promote Low-Wage Workers' Steady Employment and Advancement" (May 2001) by Carol Clymer, Brandon Roberts and Julie Strawn.

U.S. Department of Labor. *Workforce Tool Kit: The Resource for Employers* available online through www.usworkforce.org.

Welfare-to-Work Information Network. This website informs local communities and providers on effective policies and practices related to the training and placement of welfare recipients. It also reviews critical issues on related topics of healthcare, child care, training and business redesigns. See http://www.welfareinfo.org.

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Appendix

Selected Information Related to Worker Literacy

Equipped for the Future Defines Workplace Literacy for the 21st Century

In the five-year process of defining literacy for the 21st Century, the National Institute for Literacy (NIFL) directed questions at thousands of adult students on changes noticed in workplaces. They reported on jobs that are disappearing and new requirements that are likely to expand within a firm or across an industry. These stories presented a clear picture of the roles played by workers and were used to broadly map areas of responsibility and activity in adapting to changing workplaces and workforce demands.

The Equipped for the Future (EFF) standards that ensued did not supplant SCANS and other job analysis studies. (See http://www.nifl.gov to access the EFF standards content report.) They outlined the skills and knowledge needed within the framework of lifelong learning; giving substance to and support for a seamless delivery system.

The EFF standards were developed from Role Maps. The Worker Role Map below outlines exactly what adults do in carrying out responsibilities common to most jobs. The Map includes a "key purpose" or the central aim of the role as worker; a "broad area of responsibility" or the critical functions that an adult performs in the workplace in order to achieve the purpose; and "key activities" through which the role is performed. Role indicators were added which describe the successful performance of key activities.

When adults are in the role of work, key everyday living tasks common to this role were identified. These tasks were seen as ones that endured through time and across the various roles adults assume. They are the building blocks of being a literate adult as parent, as worker, as citizen, as health consumer and provider. The 13 everyday activities related to being literate in the workplace are found in Table 9. These 13 activities are primary competencies used to adapt to change and actively participate in meeting the demands of a changing workplace in a changing world.

Table 8. **Worker Role Map**

Effective workers adapt to change and actively participate in meeting the demands of a changing workplace in a changing world.

BROAD AREAS OF RESPONSIBILITY			
Do the Work Workers use personal and organizational resources to perform their work and adapt to changing work demands.	**Work with Others** Workers interact one-on-one and participate as members of a team to meet job requirements.	**Work Within the Big Picture** Workers recognize that formal & informal expectations shape options in their work lives and often influence their level of success.	**Plan & Direct Personal and Professional Growth** Workers prepare themselves for the changing demands of the economy through personal renewal.
KEY ACTIVITIES			
Organize, plan, & prioritize work.	Communicate with others inside & outside the organization.	Work within organizational norms.	Balance and support work, career, and personal needs.
Use technology, resources, & other work tools to put ideas and work directions into action.	Give assistance, motivation, and direction.	Respect organizational goals, performance, and structure to guide work activities.	Pursue work activities that provide personal satisfaction and meaning.
Respond to and meet new work challenges.	Seek and receive assistance, support, motivation and direction.	Balance individual roles and needs with those of the organization.	Plan, renew, and pursue personal and career goals.
Take responsibility for assuring work quality, safety, and results.	Value people different from yourself.	Guide individual and organizational priorities based on industry trends, labor laws/contracts, and competitive practices.	Learn new skills.

[60]*Equipped for the Future Content Standards*

Table 9. **Thirteen Everyday Literacy-related Activities of Workers**

1. **Gather, analyze and use work-related information**
   (Find and analyze information from diverse sources. Use it to form opinions, make decisions, and take action.)

- Monitor and gather information from a variety of sources
- Establish criteria for the quality and appropriateness of the information
- Assess the value of the information
- Use the information to make informed decisions

2. **Manage resources**
   (Find, manage, share, and allocate time, money, and material resources in a way that supports your own work needs, goals, and priorities and those of your family, community and workplace.)

- Identify those resources you have and those you need
- Determine where they are and how they can be obtained
- Use the resources in an efficient and effective manner
- Balance resources effectively for family, work, community and self

3. **Work within the big picture**
   (Look beyond the immediate situation. Take into account the structures, culture, practices, and formal and informal rules and expectations of the workplace and economy that influence and shape your work-related actions.)

- Gather information about a system and how it works
- Determine your relationship to the workplace system and the roles you and others play within it
- Monitor the workplace system and predict changes
- Base your efforts to influence the system on your knowledge of how it works

4. **Work together**
   (Cooperate with others to learn, accomplish tasks, and pursue common work related goals.)

- Identify what needs to be done and plan how to do it
- Pay attention to the relationships within the group as well as to completing the task
- Identify and draw upon everyone's strengths in carrying out the work of the group
- Recognize and deal with conflict in a productive manner

5. **Provide leadership**
   (Inspire and direct others in shaping and achieving a common work goal.)

- Institute and manage plans for action and change, based on an understanding of the big picture
- Organize and motive others to act
- Guide sound problem solving and decision making
- Assure consistent monitoring and evaluation of performance

6. **Guide and support others**
(Help others succeed by setting an example, providing opportunities for learning, or giving other kinds of assistance.)

- Acknowledge and reward others' strengths and accomplishments
- Contribute to creating supportive, learning environments and experiences
- Empower others through mentoring, coaching and being a role model

7. **Seek guidance and support from others**
(Help yourself succeed by asking for information, advice, and assistance.)

- Recognize when you need help and know where to go for it
- Seek out relationships with people whose judgment is trusted
- Create and make use of networks of personal and professional contacts
- Be responsive to new ideas and accept and use constructive criticism and feedback

8. **Develop and express sense of self**
(Create you own personal voice in the workplace. Use your understanding of self to guide your work-related actions.)

- Examine and clarify your own values and beliefs, recognizing the role your cultural heritage and personal history play in shaping these and in determining the possibilities of expression
- Maintain standards of integrity
- Consider the constraints of the situation as well as your own strengths and weaknesses when choosing a course of action
- Pursue outlets for interests and talents to maintain emotional and physical health

9. **Respect others and value diversity**
(Respect and appreciate the values, beliefs, cultures, and history of others in the workplace. Use this understanding to counteract prejudice and stereotypes.)

- Create a work environment where others feel welcome, are included, and thrive
- Encourage and carefully consider a wide range of opinion and beliefs
- Educate yourself about other cultures
- Challenge the beliefs that a person's inherent capacity is limited by background or group membership.

10. **Exercise rights and responsibilities**
(Act and advocate on behalf of yourself and others, taking into account laws, social standards, and cultural traditions.)

- Recognize and assume your share of family, civic, and work responsibilities
- Monitor and keep up to date on federal, state, and local laws and regulations
- Make sure your own behavior is just and responsible
- Take personal responsibility to bring about change or resolve problems to achieve a common good

11. Create and pursue vision and goals
(Dare to dream. Be clear about where you want to go to be and maintain well being and how to get there.)

- Articulate a vision that embodies your values and goals or those of your family, community or work group
- Establish attainable goals that are compatible with that vision
- Develop a realistic plan to move toward the vision and goals
- Create alternative means of meeting your goals that anticipate the effects of change

12. Use technology and other tools to accomplish goals
(Be familiar with a variety of tools and technologies that can make it easier to achieve your work related goals.)

- Keep up-to-date on developments in tools and technologies that may be useful for communicating, managing information, solving problems, and carrying out daily tasks
- Determine which tools are most useful for the purpose and context at hand
- Use complex tools, machines, and equipment to solve problems

13. Keep pace with change
(Anticipate, manage and adapt to change in work conditions and systems that affect your life.)

- Adjust your goals and plans over time to take into account actual or prospective changes in the workplace and economy
- Keep abreast of and evaluate trends in the workplace and community, as well as the nation and world
- Determine what skills and knowledge are needed to meet emerging work needs or new situations
- Create opportunities to expand your own skills and knowledge, as well as those of your family, community, and work group.

As one can see, there is not one reader who could say that they have mastered all these skills areas. To be literate is a lifelong learning challenge. In order to fulfill the responsibilities as a worker, adults must be able to:

- access information in effective ways,
- express their opinions and ideas with the confidence they will be heard and taken into account
- solve problems and make decisions on one's own, acting independently, without having to rely on others
- learn how to learn so that they can keep up with the world as it changes

To accomplish these four things, they must effectively engage in the 13 activities in the workplace identified in Table 9. In order to do these activities well, they have to be highly literate and apply the literacy skills found in Table 8 to each of the 13 activities.

Framework for Standards-Based System Reform. The EFF standards help to guide "performance" across every area of adult literacy and basic skills development. They are tools for teachers to use in preparing lesson plans and instructions. They inform the development of curriculum and assessments, the selection of materials, and the assignment of resources needed to raise the literacy capacity of an individual or a group. Beyond their application for teachers and adult learners, the EFF standards are also being used as a platform for standards-based system reform (refer to EFF Content Standards, p. 100).

How can they be useful in changing systems? Equipped for the Future is a collaborate initiative, comprised of influential leaders and practitioners who broadly represent the views of adult learners, and all major education and program disciplines. In the process of creating a clear "results-based" vision for adult learning, EFF developed common goals and a language for discussing them that everyone can relate to. It is a vision formed by national consensus, one that is customer-based and accountable. The EFF standards can apply to any provider, and therefore influence reforms in systems; because it measures success by how effectively adult learner needs are met.[61]

How Is Adult Literacy Measured?

When literacy was simply thought of as reading, it was typically measured in grade-level equivalents. An adult's literacy skill was said to be at first grade or fifth grade, for example. A more complex, more realistic conception of literacy emphasizes its use in adult activities. To determine literacy skills in American adults ages 16 and older, the 1993 National Adult Literacy Survey (NALS) used test items that resembled everyday life tasks. It involved the use of prose, document and quantitative skills. The NALS classified the results in five levels of proficiency with level one being the lowest level of proficiency and level five the highest. These levels are now commonly used to describe adults' literacy skill levels.

The **prose literacy** items assessed the adults' ability to handle written text such as editorials, news stories, poems and fiction. It assessed the ability to handle both expository and narrative prose. Expository prose involves printed information that defines, describes, or informs such as newspaper stories or written instructions. Narrative prose assessed the adults' ability to understand a story. Prose literacy tasks included locating all the information requested, integrating information from various parts of a passage of text, and writing new information related to the text.

Document literacy items assessed the adults' ability to understand short forms or graphically displayed information found in everyday life, including job applications, payroll forms, transportation schedules, maps, tables and graphs. Document literacy tasks included locating a particular intersection on a street map, using a schedule to choose the appropriate bus, or entering information on an application form.

Quantitative literacy information was displayed visually in graphs or charts or in numerical form using whole numbers, fractions, decimals, percentages, or time unites. These quantities appeared in both prose and document form. Quantitative literacy referred to locating quantities, integrating information from various parts of a document, determining the necessary arithmetic operation, and performing that operation. Quantitative literacy tasks included balancing a checkbook, completing an order form and determining the amount of interest paid on a loan.

Almost all adults in NALS level 1 can read a little but not well enough to fill out an application, read a food label, a medicine label, read a simple story to a child, or fill out a deposit slip correctly. Adults in level 2 usually can perform more complex tasks such as comparing, contrasting or integrating pieces of information but usually not higher-level reading and problem-solving skills. For example, those at level 2 could correctly write their signature on a social security card and fill out a simple job application. But they could not read correctly a sales graph or figure out what the gross pay was on a paycheck stub, or add correctly the cost of a meal. Adults in levels 3 through 5 usually can perform the same types of more complex tasks on increasingly lengthy and dense texts and documents. These levels use a

broad range of information processing skills in various combinations. For example, people at level 3 could figure out bar charts and graphs but could not correctly read a bus schedule. They could not figure out the correct number of minutes that it would take to get from one location to another. People at level 4 could read the bus schedule but not summarize the views of parents and teachers found on a summary chart which involved comparing parent and teacher data across four questions and across three levels of schools. They could not correctly estimate the cost per ounce of a food product when given a food store shelf label with this information on it or figure out interest charges on a home loan.

In summary each scale was divided into five levels that reflect the progression of information-processing skills and strategies. These levels were determined not as a result of any statistical property of the scales, but rather as a result of shifts in the skills and strategies required to succeed on various tasks along the scales, from simple to complex.

For a review of the levels of literacy found in the National Adult Literacy survey see http://nces.ed.gov/naal/. This site also contains samples from the survey instruments.

Principles of Effective Educational Practice

Adults involved in helping others learn literacy skills for 21st Century jobs are effective when they do the following things.

1. **They link new literacy learning to an adult's prior work experience and/or job skills training.**

   Adults learn more quickly if they can start with what they know and apply new learning to what they already know and can do. Educators must spend time with each adult so that they really know how they think about making decisions in the workplace, how they work with others in doing team assignments, where they feel strong and weak in accessing job tasks and arriving at the most effective means for carrying them out. That is one of the reasons why work-based learning is helpful. It goes beyond the traditional classroom approach of one teacher interacting with several students and permits educators, peers and supervisors to observe what skills are used, and needed, in performing jobs whether at a single firm or across an employment sector of business and industry. Adults tend to learn more quickly if they can build on knowledge and skills that they have already mastered.

2. **They help adults meet specific worker literacy learning goals related to their own job and worksite needs.**

   Educators must understand each adult's own worker literacy level. Learning activities that *combine* basic literacy skills with practical use on the job will enhance the adult's overall ability to become more literate. Instruction should therefore be reality-based and start by meeting immediate workplace needs and goals. Adults are ready to learn when they need to learn in order to cope with real-life work decisions and assignments. There should be ample opportunity for the learners to practice their newly acquired job skills. In other words, adults need to see models of high performance related to skill development. They need practice in actually using every required literacy skill to do their jobs in compliance with employer- or industry-determined standards.

3. **They help adults meet specific workplace literacy learning goals related to their role as educator or mentor in helping others satisfy their worker literacy needs.**

   Adults are not only learners they are teachers too. Educators must observe the adult as teacher and mentor for their peers and other workers to perform

workplace literacy tasks proficiently. Learning experiences must allow adults to interact with other workers under supervision so that adults can see other adult models of effective worker literacy instructional behaviors. Adults need opportunities to be coached on how to act as educator of workers at their worksite or at similar jobs elsewhere.

4. **Their worker literacy instruction is experientially based.**

   Adults learn best when they can learn by doing and then discuss what they did and how to do it better. This is called experiential learning. The educational format designed by adult literacy educators should not appear schooling-oriented in approach or style. Most schooling experiences are content-oriented rather than experientially based. Often the content taught in school settings wasn't seen as relevant by the student. It is likely that the schooling experiences of most level 1 and level 2 literate adults were negative because they experienced more failures than success. Therefore, learning experiences for work-based or workplace literacy programs need to be experiential and designed to feel and look different from schooling. Instruction that uses experiential techniques, such as discussion, problem solving, simulation exercises and field experiences are more effective than lectures and rote memorization. Modeling behavior desired and discussed is very important so concrete examples are available.

5. **They are able to assess various learning styles of adults and communicate new workforce literacy information and skills to them in ways they understand it.**

   They need practice in actually teaching worker literacy skills to their family, friends and co-workers. They need to receive the necessary feedback on how to do it better. It means that the instructor must know their material well enough to go where the adult wants to go with worker literacy learning rather than following the more traditional lesson plan format which follows the educators logic but not the learner's needs or logic. Why? Because adults tend to be goal oriented in their learning—they want to see results immediately. They want new knowledge and skill learning to be applied directly to satisfying needs related to decision making as parents, worker, citizen, and health consumer. Learning must be practical and address the individual's immediate needs and desires, which tend to be more skill-based and decision-oriented.

6. **Their literacy learning experiences are contextual.**

   Often a present workforce issue provides the context for effective teaching. However, workplace literacy education also occurs within general discussions of skill improvement. Computer literacy is a good example. To contextualize instruction means that the educator must learn about actual workplace situations related to the adult's efforts to gain literacy skills and act as educator of other workers and aspiring job candidates. The educator must use those situations as a base for conversations and practice. Adult learners are situation solvers. (Some call these problem solvers but not all situations are seen as problems to adults, but in fact, do demand new learning.) Once actual situations are known then teaching has a context that is seen as relevant to the adult learner.

7. **They communicate effectively with adults who have differing ways in which they think about and take action on work-related or worksite situations.**

   Adults have different learning styles and therefore the way they are taught needs to be different. Learning styles affect how we go about making sense out of information received and how we begin taking action on what we hear. It's our own thinking-action process. Some want to understand the overview first before getting to the particulars of a work-related situation. Others want the particulars first and then the overview. Some want as much information as they can about a workplace matter before they act. Others want to act or decide and then get information only relevant to what they are specifically doing. Others want to think it through completely before acting. Others want to think while acting. Some have a hard time thinking conceptually about a piece of workforce information. Others immediately put the information into a context based on their current workforce understandings and practices. Some are only comfortable hearing about it and not doing it. Others only want to do it and not think much about what it all means to them and others. These are all characteristics of different learning styles. Effective educators are able to adjust personal communications to match what they hear expressed in their adult learner's discussions. So instruction has to be flexible in order to pitch the worker literacy message right. Because of this demand to meet multiple learning styles, having lots of mentoring and demonstrations by co-workers and supervisors does help.

8. **They are able to work in a variety of work-based and workplace settings with a variety of different types of employers and community leaders.**

   They must partner with business and community leaders from departments of education, job training, literacy councils, human services, community coalition groups, churches, media outlets, the public schools, technical colleges and four year colleges and universities to develop workforce literacy learning sequences that can be of benefit to a greater number of adult learners. Effective adult educators can communicate with a variety of different types of people who possess differing levels of communication literacy skills.

9. **They effectively involve adults in planning their own worker literacy learning.**

   Learning is enhanced when there is buy in from the learners themselves. Despite more and more training and educational mandates from employers, adult learning remains primarily a voluntary exercise. Strategies, such as the development of a learning contract, seem to work well with adults. Retention is higher when adults are involved in planning their own learning.

10. **They market their worker literacy learning offerings in effective ways.**

    Recruitment is a problem for some. Many adult education programs administered through the department of education are low in attendance because mass communication is used rather than a personal touch. Effective educators tend to set up systems so adults are personally invited. Mass communication advertising doesn't seem to work as well. One-on-one invitations given out by an effective volunteer or group network, a neighbor inviting neighbor, church member inviting church member, or work colleague inviting a work colleague approach tend to work better. Just think about why you choose to attend or participate in various events and functions. You are more apt to attend things when there is a personal invitation and you feel someone really cares whether or not you are there.

    Another method that tends to work is building in some sort of award system. Promising full or partial payment for time in class or attainment of work-related certification has been an effective incentive for workers to upgrade their skills. It is estimated that current literacy programs reach only about 8% of the target population.

11. **They understand that retention of adults in worker literacy programs is a problem and act accordingly.**

    Participation and retention is higher in workplace literacy programs that are designed with the workers' input. Individual needs have to be addressed. They have to feel comfortable and safe to communicate where they really are and what they really want to learn. They have to be given encouragement continuously. They have to experience some gains in their learning. Effective educators know this and act accordingly. Populations needing worker literacy the most (adults at the lowest levels of literacy, high school dropouts, out-of-school youth, non-English speakers, and those in poverty) are particularly sensitive in these regards.

12. **They reward adults who have successfully completed the program or accomplished correctly a new job skill or decision-making task.**

    The rewards for demonstration of improved literacy skills need to be immediate. If wiser decision-making occurs, it needs to be rewarded. If work instructions are understood and followed more accurately, it needs to be rewarded. If employees work together to solve a problem or effectively accomplish a new assignment, they need to be recognized. Immediate feedback and corrective steps are also needed.

    When worker literacy education is conducted in work-like settings, the rewards may not be as immediate or come in the form of salary increases or monetary incentives. Even then, rewards must be provided throughout the program, a defined end and a reward of some valued kind needs to be present. Educators therefore define the program's goals and objectives. These are obtainable and tailored to the specific group of adults with whom they are working. The programs build in small "wins" to learning and recognize them in legitimate ways.

Applying these principles is hard work. It takes thinking and acting outside the "box" of traditional "schooling" and learning. Recruitment and retention rates will directly correlate to how successful one is in applying these principles of teaching and communicating. Reaching learning outcomes such as those mentioned elsewhere in this report are conditioned on using these principles effectively.

Primary Federal Legislation and Delivery Systems

Workforce Investment Act of 1998. Within the realm of federal job training allocations, WIA consolidated the remaining categorical programs administered by the U.S. Department of Labor into three flexible, but separate, funding streams for services to eligible youth (ages 14-21), adults, and dislocated workers. Business-led workforce investment boards serve as single policymaking and planning bodies in regions and larger communities. They assess local workforce conditions and propose coordinated plans for youth and adults to meet "both the needs of businesses and the needs of job seekers and those who want to further their careers." The U.S. Department of Labor is authorized to extend yearlong waivers to certain laws and regulations if states can show that they restrict reform efforts.

As opportune as this is for local decision-making, the funds dedicated to WIA are small in proportion to what is needed to fully implement the comprehensive design that is envisioned. Avenues exist for governors, policymakers and community leaders to creatively fold-in conditions in their WIA plans that leverage the spending of other private and public funds, such as Wagner-Peyser (Job Services), Welfare-to-Work (Temporary Assistance to Needy Families), vocational education and rehabilitation.

In a sense, WIA provides a framework with blueprints on the core activities to be offered at the one-stop career centers. Beyond these fundamentals, communities are empowered to make their own decisions on how the system needs to be configured to achieve the best results for its customers. For workers, this means providing flexible and multiple paths for developing skills that will prepare them for careers with family-supporting wages. For employers, information should be readily available and relevant whether in matching qualified candidates to jobs or customizing training to satisfy industry requirements.

The South Carolina Employment Security Commission (SCESC) administers the WIA block grant for the state. The SCESC provides oversight and assistance in the development of 5-year plans for 12 regions in the state. However, the regional administers prepare the individual plans as directed by the local Workforce Investment Board (WIB). For Lancaster and Chester Counties, the administrative entity for WIA is the Catawba Regional Planning Council in Rock Hill, S.C. Information specific to WIA plans and programs is available by contacting the Workforce Development Director.[62]

The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA). PRWORA is our nation's attempt to reform the welfare system. Although it took effect in 1996, many states including South Carolina had initiated earlier reforms. This legislation ended the federal system of welfare entitlements to

low-income parents with children. It shifted responsibility to the states to administer job-related support programs in an effort to break the cycle of dependency among families that have relied on welfare subsidies for generations.

Allocations based on the previous year's welfare payments were capped and released to the states as block grants, referred to as Temporary Assistance to Needy Families (TANF). As the name implies, a federal five-year lifetime restriction was placed on the receipt of TANF payments to families headed by a working-age parent or adult. States submitted plans describing how families would be assisted in transitioning off public assistance and into self-sufficient employment. South Carolina's plan reflected legislation enacted a year earlier, the Family Independence Act of 1995. The Family Independence (FI) program imposes a more stringent two-year time limit within a ten-year period (except for hardship cases) and requires applicants to seek "work-first" as a condition of eligibility.

TANF provisions give states greater flexibility to provide workforce training than WIA. In combination with yearly federal appropriations, incentive funding, and state "maintenance of effort" revenues, annual welfare spending is nearly $26 billion dollars. Compared to WIA allocations which receive an estimated $1 billion dollars each year for adult job training services, welfare programs offer states the resources to build the workforce development system they are planning. As a result of sizeable surpluses from caseload reductions and federal amendments (issued in April 1999), TANF funds can be used to assist working-poor families, even those who do not have custody of their children (e.g., absent fathers) and young adults who could benefit from services to prevent out-of-wedlock pregnancies. TANF-funded workforce development services do not necessarily carry with them the same time limits, work requirements, and other obligations that apply to the cash assistance programs.[63]

In the context of development of a new workforce learning system, this source of funds provides a substantial resource to apply to development of workforce learning aimed at adults at level 1 and 2 literacy levels, particularly women. It is a substantial piece that fits into the larger learning system resource puzzle.

The South Carolina legislature designated the S.C. Department of Social Services responsible for the administration of TANF in cooperation with five major state agencies. At the local level, contact the county director of social services or the supervisor of Family Independence for information on FI programs and TANF services.

Adult Education, Literacy and Basic Skill Development. Title II of the Workforce Investment Act reauthorizes the Adult Education and Family Literacy Act of 1998. Language within the Act requires that adult education providers agree to coordinate services through the one-stop career centers, but the states continue to manage the programs as before. In South Carolina, the State Department of

Education distributes the funds in support of on-going adult literacy and basic skill development through school districts, community colleges, correctional agencies, and community-based organizations. The activities permitted include:

- **Basic Education.** Adult basic education (ABE) targets adults sixteen years of age with less than a high school education. Generally, the instructions are geared to adults with the lowest NALS level 1 literacy, which is described as functioned below a 5th grade reading equivalency, and level 2 literacy where adults read between 5th and 8th grade levels. Depending on the number of students enrolled, teachers may conduct classes, provide one-on-one tutoring, or both. In larger classrooms, the adult learners are frequently divided into first and second level groups. Providers are encouraged to use various teaching methods and computer-assisted instructions.
- **English as a Second Language (ESL).** Language literacy classes are offered to adults with limited English-speaking proficiency. Basic instructions include math, reading, speaking English, and other life skills or employability classes to assist immigrants in adjusting to cultural and employment differences. Higher levels of reading and math may be taught as language skills improve.
- **Family Literacy.** The adult component of family literacy program can be funded through ABE. This teaches parents ways to build the literacy skills of their child. For example, ABE instructors may introduce age-appropriate activities (e.g., Parent and Child Together), to the parent to use in interactions with the child while at the adult education center or at home.
- **General Education Development (GED).** Adults lacking a high school diploma frequently attend remediation classes in preparation for passing the GED test. The test contains five parts to measure competencies in writing, social studies, science, language arts, and mathematics. Minimum passing scores are set nationally for each subtest and overall. The GED exam is periodically revised to reflect higher skills levels and new competencies. Revisions are expected in 2002 that will include problem-solving and communication skills.[64]

Career Preparation, Skill Training, and Work-based Learning. Vocational education and skill training for secondary and post-secondary students are authorized under other federal legislation: the Carl D. Perkins Vocational and Applied Technology Act, and the School-to-Work Opportunities Act (STWOA). These programs encourage states to adopt a broader vision for preparing youth and adults for future careers; one that is interdisciplinary and spans across academic and vocational boundaries. The strategies proposed are effective practices that state and community innovators have been perfecting for years. They also reflect the best thinking of educators, researchers and business coalitions throughout the country.

States are being asked to involve local employers and educational leaders in defining 21st Century literacy skills for career preparation and skill training programs. Communities are organizing strong partnerships among stakeholders (e.g., workers, employers, schools, parents, and community organizations) to enhance learning opportunities outside of formal school settings. They are revising curricula to "link school-based learning with work-based learning."[65] The integration of academic knowledge and applied skills is an age-old and tested learning model. Higher education applies these strategies in undergraduate and graduate programs through medical practicum, internships, and cooperative education.

Youth Development Opportunities. WIA also articulates strategies that are useful in preparing out-of-school youth for careers and adult roles. The workforce investment boards are required to appoint separate youth councils of representatives engaged in local youth activities. They advise and oversee the development of core activities and ensure that principles of youth development are followed (see Table 5 guidelines for comprehensive youth employment initiatives). Combined funding for youth formula grants to states and localities is slightly over one billion ($1.1) dollars annually.[66]

Notes and References

[1] The 21st Century Workforce Commission. (2000). *A Nation of Opportunity: Building America's 21st Century Workforce*. Washington, DC: National Alliance of Business, p. 24. See http://www.workforce21.org.

[2] This is a definition found in The National Literacy Act. (1991). Public Law 102-73, Section 3. See http://www.nifl.gov/public-law/.

[3] See the *Equipped for the Future* (EFF) report on the National Institute for Literacy site at http://www.nifl.gov/. These skills are not explained in detail within this report. Each skill listed is further defined in this report.

[4] Comings, J., Reder, S., & Sum, A. (2001). *Building a Level Playing Field: The Need to Expand and Improve the National and State Adult Education and Literacy Systems*, Washington, DC: National Institute for Literacy, p. 5.

[5] Comings, J., Sum, A., & Uvin., J. (2000). *New Skills for a New Economy: Adult Education's Key Role in Sustaining Economic Growth and Expanding Opportunity*. Boston, MA: Massachusetts Institute for a New Commonwealth, December, p. vii. Available at http://www.massinc.org/

[6] The 21st Century Workforce Commission. (2000). *A Nation of Opportunity: Building America's 21st Century Workforce*. Washington, DC: National Alliance of Business, p. 24. See http://www.workforce21.org

[7] Trends and current statistics taken from 2001 South Carolina Kids Count at http://www.orss.state.sc.us/hd/index.html and *Lancaster County Strategic Plan*. (1991). Lancaster County Chamber of Commerce, February, p. 22.

[8] From 2001 South Carolina Kids Count for Chester and Lancaster Counties. Available at http://www.orss.state.sc.us/hd/index.html

[9] Chart compiled from Wilson, K. (2001). "Selected Information Related to Family, Health, and Worker Literacy Education," Clemson, SC: Clemson University, Institute on Family and Neighborhood Life. Source of data for dropouts and out-of-school youth is 2001 South Carolina Kids Count.

[10] Carnevale, Anthony. (1999). "A College Degree is Key: Higher Education and the Changing Workforce," *National Cross Talk*. Washington, DC: The National Center for Public Policy and Higher Education, Summer. Available at http://www.highereducation.org/crosstalk.ct0799/index.html

[11] South Carolina Chamber of Commerce. (2000).*Skills that Work 2000*. Columbia, SC: South Carolina Chamber of Commerce in partnership with the S.C. Employment Security Commission, p. 3.

[12] U.S. Department of Commerce, U.S. Dept. of Education, U.S. Dept. of Labor, the National Institute for Literacy, and the Small Business Administration.

(1999). *21st Century Skills for 21st Century Jobs*. Washington, DC: U.S. Government Printing Office, January, p. 8. Available at http://vpskillsummit.gov/

[13] Ibid, p. 8.

[14] Chart compiled from Wilson, K. (2001). "Selected Information Related to Family, Health, and Worker Literacy Education," Clemson, SC: Clemson University, Institute on Family and Neighborhood Life. Data source for adult literacy characteristics is DP-2 Social Characteristics: 1990 Summary Tape File 3 (STF3) U.S. Census Bureau.

[15] Torres, Cruz. (2000). "Emerging Latino Communities: A New Challenge for the Rural South," Mississippi State, MS: The Southern Rural Development Center, No. 12, August, p. 1.

[16] Comings, J., Sum, A., & Uvin., J., p.vii.

[17] From Census 2000 as found on the SC Budget and Control website at http://www.ors.state.sc.us

[18] S.C. Department of Education. (1999). "South Carolina Updates-Technology Counts '99," Columbia, SC: September 23 newsletter. Available at http://www.edweek.org/sreports/tc99/sc99.html.

[19] John J. Heldrich Center for Workforce Development. (2001). "Holding On: Americans Assess a Changing Economic Landscape," *Work Trends*, May. New Brunswick, NJ: Rutgers University, John J. Heldrich Center for Workforce Development.

[20] The 21st Century Workforce Commission (2000), p. 10. Taken from Henry et.al, *The Emerging Digital Economy II*. (June). Washington, DC: U.S. Dept. of Commerce, Economics, and Statistics Administration, June. Available at http://www.eas.doc.gov

[21] For reports that reinforce this conclusion see *21st Century Skills for 21st Century Jobs* and Acs, Phillips & McKenzie (2000). "On the Bottom Rung: A Profile of Americans in Low-Income Working Families," Washington, DC: The Urban Institute. No. A-12, October, in series *New Federalism: Issues and Options for States*.

[22] National Academy of Sciences. (2000). Shonkoff, J.P. & Phillips, D.A. (Eds.). *From Neurons to Neighborhoods: The Science of Early Child Development*. Washington, DC: National Academy Press, Chapter 10, p. 273. Available at http://www.nap.edu

[23] U.S. Department of Labor. Secretary's 1992 Commission Report, as cited in Doris Ivy (undated). *Workplace Literacy: Literature Review, Trends, and Models*. Sacramento, CA: Sacramento County Office of Education.

[24] *21st Century Skills for 21st Century Jobs*, p. 16. Available at http://vpskillsummit.gov

[25] Ibid, p.17.

[26] Ganzglass, Jensen, Ridley, Simon & Thompson. (undated). *Transforming State Workforce Development Systems: Case Studies of Five Leading States*. Washington, DC: National Governors Association, Center for Best Practices. Available at http://www.nga.org/cda/files/07?001WORKFORCEDEV.pdf

[27] U.S. Department of Labor. (1998). *Overview of the Workforce Investment Act of 1998*. Washington, DC: U.S. Government Printing Office, September. Available at http://usworkforce.org/runningtext12.htm)

[28] Pindus, Koralek, Martinson & Trutko. (2000). "Coordination and Integration of Welfare and Workforce Development Systems," Washington, D.C.: The Urban Institute, Report for the U.S. Department of Health and Human Services.

[29] Peterson, E. and Wilson, K. (2001). "A Literacy Check-up for Lancaster County and Fort Lawn and Great Falls of Chester County, " Clemson, SC: Clemson University, Institute on Family and Neighborhood Life, and J. Marion Sims Foundation, Inc., p. 9.

[30] Ibid, p. 9.

[31] Ford Foundation, as cited in Laufer Green Issaac (undated). "The Double Bottom Line: Competitive Advantage through Community Investment," The Ford Foundation Corporate Involvement Initiative (brochure), p. 10. Retrieved from http://www.fordfound.org

[32] *21st Century Skills for 21st Century Jobs*, p. 23.

[33] Orthner, D. et al (1997). "Outcomes Assessment of CET and RITE Programs." Chapel Hill, NC: The University of North Carolina at Chapel Hill, Jordon Institute for Families, September, p. 5.

[34] Osterman, Paul (1999). *Securing Prosperity. The American Labor Market: How It Has Changed And What To Do About It*. Princeton, NJ: A Century Foundation Book, Princeton University Press, p. 137.

[35] For more information on the Research Triangle Park CET, contact Tyron Everett, Regional Director, Center for Employment Training, 4022 Stirrup Creek Drive, Suite 325, Research Triangle Park, NC 27703-9000, or call (919) 838-1090.

[36] For more information on Focus: HOPE, contact Joe Petrosky at 1355 Oakman Boulevard, Detroit MI 48238, or call (313) 494-5500. Additional information online at http://www.focushope.edu/ and in The Ford Foundation Corporate Involvement Initiative (brochure), p. 12.

[37] For additional information on Crispus Attucks' YouthBuild, contact Cynthia Dotson, YouthBuild Director, 605 South Duke Street, York, Pennsylvania 17403, or call (717) 848-3610.

[38] Elliott, M. & King, E. (1999). "Labor Market Leverage: Sectoral Employment Field Report." Philadelphia, PA: Public/Private Ventures, Winter, p. 4. For additional information on sectoral employment strategies and program designs see the Public/Private Ventures website at http://ppv.org/

[39] See National Youth Employment Coalition. (1998). *Program Profiles* online at www.nyec.org/ and Jobs for the Future (undated). *Work-Related Learning Guide for Family Literacy and Adult Education Organizations*. Boston, MA: Jobs for the Future, p. 29. Available online at http://www.jff.org/

[40] Knell, Suzanne (1997). "Learn to Earn: Issues Raised by Welfare Reform for Adult Education, Training and Work," Washington, DC: National Institute for Literacy. Available at http://www.nifl.gov/activities/sknell.htm

[41] For more information on the Midlands Literacy Initiative, go to the United Way of the Midlands' website at http://www.uway.org or contact Kathy Olson, MLI Director, by emailing kolson@uway.org or calling (803) 733-5412.

[42] For more information on LEAP contact Dr. Harry Nodes with Horry-Georgetown Technical College by emailing DrHNodes@gscrods.com.

[43] For information on educational opportunities at the Robert Bosch Corp./ Charleston plant, contact Quincy Holmes, Unit Manager of Human Resources, 101 Dorchester Road, Charleston, SC 20418 or call (803) 760-7360.

[44] Council for Adult and Experiential Learning. (2000). *Serving Adult Learners in Higher Education*. Chicago, IL: Council for Adult and Experiential Learning sponsored by The Pew Charitable Trusts, p. 13. For online copy go to: http://www.cael.org/CollegesandUniversities/ Summaryof%20alfiPrinciplesofEffectiveness.pdf

[45] For more information, contact Mishy Lesser, the Director at 617-727-8158 #1384 or email Mlesser@commcorp.org.

[46] Commission on Small/Rural Community Colleges. (1991). Cited in Barnett, L. (Ed.), "Rural Workplace Literacy: Community College Partnerships." Washington, DC: American Association of Community and Junior Colleges, p 11.

[47] For more information, contact John Topping, Program Director, by calling (864) 984-5726. Note: At the time of publication the B Best program was in jeopardy of losing funding from area businesses because of substantial layoffs in textiles and manufacturing industries.

[48] Button, K., Cox, K., Stough, R. & Taylor, S. (2000). *The Long Term Educational Needs of a High-technology Society*. Fairfax, VA: George Mason University, Mason Enterprise Center and the School of Public Public, p. 2.

[49] Peterson, E. and Wilson, K. (2001). "A Literacy Check-up for Lancaster County and Fort Lawn and Great Falls of Chester County." Clemson, SC: Clemson University, Institute on Family and Neighborhood Life, p. 22.

[50] For more information go to http://www.jointventure.org, write Joint Venture: Silicon Valley Network, 99 Almaden Boulevard, Suite 700, San Jose, CA 95113-1605, or call tool free (800) 573-JVSV.

[51] National Governors Association. (undated). *The State of E-Learning in the States*. Washington, DC: National Governors Association, p. 8. Available at http://www.nga.gov

[52] "Jobs for the Future. (2001). *Driving Change in Community Colleges: An Analysis of Change in Two Community Colleges*. Boston, MA: Jobs for the Future, July, p. 11-12.

[53] For more information, contact Keva Walton, Vice President for Workforce Development, Goodwill Industries of South Piedmont, Charlotte, NC or call (704) 372-3434.

[54] Imel, Susan (1999). "One-Stop Career Centers and Community Colleges." Columbus, OH: Clearinghouse on Adult Career and Vocational Education, ERIC Digest No. 2081.

[55]Per learner cost calculated as $498.37 by dividing the total participants served last year, numbering 373, by the estimated dollars spent of $153,000.

[56] National Alliance of Business. (undated). "Workplace Literacy Interview Guide: Judging the Quality and Effectiveness of Literacy Providers." Washington, DC: National Alliance of Business.

[57] Taken from the U.S. Department of Labor (1999). *Annual Report*. Washington, DC: U.S. Government Printing Office.

[58] Kirkpatrick, Donald L. (1998). *Evaluating Training Programs: The Four Levels* (2nd Edition). San Francisco, CA: Berrett-Koehler Publishers, Inc.

[59] Taken from U.S. Department of Labor. (1998). *Workforce Development Performance Measures Initiative, Final Report*. Washington, DC: U.S. Government Printing Office, July, p. 7.

[60] Stein, S. (2000). *Equipped for the Future Content Standards*. Washington, DC: National Institute for Literacy, p. 11.

[61] The Basic Principles for Effective Literacy Practice were derived from several sources. There has been a great deal written about how adults learn and what can be done to best promote learning. This is a summary of the commonly used set of guiding principles.

[62] For information on WIA activities, see the website at http://www.yorkscworkforce.org or contact Robert A. Barber, Workforce Development Director, by writing Catawba Regional Planning Council, Post Office Box 450, Rock Hill, SC 29731; or calling (803) 327-9041.

[63] Comings, Reder & Sum (2001). *Building a Level Playing Field: The Need to Expand and Improve the National and State Adult Education and Literacy Systems*. Washington, DC: National Institute for Literacy. Available online at http://www.nifl.gov

[64] Taken from descriptions in the S.C. Family Independence Plan by the S.C. Department of Social Services, and the S.C. State Plan for Adult Education and Family Literacy, prepared by the S.C. Department of Education on April 12, 2000.

[65] Kazis, Richard & Pennington, Hilary (1999). "What's Next in School-to-Career?" Boston, MA: Jobs for the Future.

[66] The Institute for Educational Leadership Policy Exchange. (1999). Cited in Richardson, J. & House, S. (Eds), *Federal Programs for Children & Families: A Tool for Connecting Programs to People*. Washington, DC: The Library of Congress, Congressional Research Report for Congress, Special Report #15.

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